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STUDIES IN INDIAN TEMPLE ARCHITECTURE

Papers presented at a Seminar held in Varanasi, 1967

Edited with an introduction by

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AMERICAN INSTITUTE OF INDIAN STUDIES
1975

STUDIES IN INDIAN TEMPLE ARCHITECTURE

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PREFACE

The papers contained in this volume are from among those presented at a seminar of scholars from all over the world held under my direction at Varanasi in November 1967. Some circumstances delayed their printing for over five years and I must express my great sense of appreciation to the contributors for their understanding and extreme patience. Three papers by Professor S. K. Saraswati, Dr. James C. Harle and Dr. C. E. Godakumbura were returned to the authors when publication seemed particularly remote. They have been printed elsewhere and are therefore not included here.

I am very thankful to Dr. Kumudini Mehta and Dr. Kirit Mankodi for their editorial assistance; to Dr. Saryu Doshi for help of various kinds including the layout of the plates; Shri Dayasaran and Shri Dharampal Nanda for photographic work; Shri V. K. Venkatavaradhan for typing; Shri V. R. Nambiar and my departed friend, the late Shri K. Bharatha Iyer, for their so admirably performing the various administrative tasks necessitated by the seminar; the Prince of Wales Museum of Western India, Bombay, for help in seeing the manuscript through the press; and the Smithsonian Institution and the J.D.R. 3rd Fund, particularly Mr. Kennedy B. Schmertz and Mr. Porter A. McCray, for generous financial assistance that made the seminar and this volume possible.

Contrary to the general impression, the study of Indian temple architecture had made much progress in the ten years previous to the seminar, though unfortunately the work done was largely unpublished and remained confined to scholars actually carrying out the research and those in close association with them. The seminar was organised partly in order to bring these new studies to the attention of a wider circle, and the publication of these papers, it is hoped, will give some indication of the nature of current studies.

Bombay, September 1973. P.C.

ACKNOWLEDGMENTS

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PRAMOD CHANDRA

THE STUDY OF INDIAN TEMPLE ARCHITECTURE

The first serious and systematic work on Indian architecture in modern times, Ram Raz's *Essay on the Architecture of the Hindus* was posthumously published by the Royal Asiatic Society almost a century and a half ago, in 1834 to be precise, the same year in which James Prinsep drastically altered the study of ancient India by deciphering and reading the Brāhmī script. Ram Raz's essay was announced as marking "an epoch not only in the history of the science of architecture but also in that of the Hindus themselves,"[1] and the praise, in spite of the hyperbole, is not entirely unwarranted. A careful perusal immediately reveals the basically sound and judicious methods adopted by the author, entirely suitable to a Native Judge and Magistrate who had taught himself flawless English and was well-known for his great learning and talent. He unearthed a traditional *śilpa* text of south India, a fragment of the *Mānasāra* (the same text so assiduously harried by P.K. Acharya almost a hundred years later), understood it fairly accurately through consultation with a traditionally trained Sanskrit scholar and a "good sculptor of the Cammaṭa tribe well acquainted with the practice of architecture and terms used in the art,"[2] and verified the knowledge gained by reference to the monuments themselves. There is little more that one could ask of a work that was the very first of its type; and if its methods had been applied more frequently and the direction of research in which it pointed followed more vigorously than has been the case, our knowledge of Indian architecture might have worn a different aspect.

The problems faced by Ram Raz were several, and ones with which successive generations of scholars are only too familiar. The texts were scarce even then, and the *sthapatis* or *śilpis* who happened to possess them secretive and hardly able to understand the contents of what they possessed.

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1 From Captain Harkness' preface to Ram Raz, *Essay on the Hindus*, London 1834, p. iii.

2 From a letter of Ram Raz to Richard Clarke quoted in *ibid.*, p. x.

The priests, on the other hand, supposedly the expositors of the sacred texts, could make little sense of them either, for they were not only mnemonic in form, but were replete with a technical vocabulary as well—that is to say while apparently familiar terms were used technically, they seemed to have meanings quite different from the obvious ones, making confusion so much the worse. Ram Raz, however, drawing information from both the workmen and the priests, was able to explain the text he had found with fair success utilising 48 plates of neatly drawn and lithographed drawings to make the meaning clear.

About the time Ram Raz's work was being published, James Fergusson (1808-1886), inspired by the great activity and enthusiasm generated by Prinsep, was tirelessly exploring the three presidencies of India, "determined to try if the architecture could not be brought within the domain of science."[3] Prepared for a commercial career in India, he passed, in his own words, from school to the county house and thence to the life of an indigo planter and partner in a large business. He nevertheless plunged himself into the study of Indian architecture with singular devotion, and succeeded in laying a firm foundation for its study. Convinced that a course of studies pursued among the products of art themselves are more instructive than books of theories,[4] he travelled extensively, a one-man architectural survey, spent months among the monuments, took notes and himself sketched, drew, and made plans astonishing for their accuracy. His first publication on Indian architecture appeared in 1845,[5] and by 1876, aided by the Archaeological Reports of General Alexander Cunningham (the first five volumes of which had already appeared), the recently initiated researches of James Burgess, and above all the increasing use of photography whose value he was quick to appreciate, he could claim with considerable justification to have treated the architecture of India in a "quasi-exhaustive" manner, and to have presented a distinct view of the

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[3] James Fergusson, *On the Study of Indian Architecture,* London 1877, p. 5. According to S. Roy, *Story of Indian Archaeology,* New Delhi 1961, p. 30, these journeys took place at different times between 1829 and 1847. It is also known that Fergusson spent the years 1842-1845 in England. It was at this time, in 1843, that he delivered his paper on the rock-cut temples of India to the Royal Asiatic Society. The consequences were important and resulted in the East India Company passing orders for the preservation, drawing, and copying of antiquities.

[4] James Fergusson, *An Historical Inquiry into the True Principles of Beauty in Art,* London 1849, p. xiv.

[5] James Fergusson, *Rock Cut Temples of India,* London 1845.

general principles which have governed its historical development.[6]

Before estimating Fergusson's contribution to the knowledge of Indian architecture, it is necessary to consider his theories about architecture in general, for it is only in this context that we can fully understand the significance of his work. At the outset it is most striking to notice that Fergusson developed his own method. His first exposure to the practice of architecture and the monuments of the past was in India and, writing in 1849, at the beginning of his distinguished career, he describes his experience thus:

> "I have also had the good fortune to spend the best years of my life in countries where Art, though old and decrepit, still follows the same path that led it towards perfection in the days of its youth and vigour, and though it may be effete, it is not insane. In the East, men still use their reason in speaking of art, and their common sense in carrying their views into effect. They do not, as in modern Europe, adopt strange hallucinations that can only lead to brilliant failures; and in consequence, though we may feel inclined to despise the results, they are perfection itself compared with what we can do, when we take into account the relative physical and moral means of the Asiatic and the Anglo-Saxon."[7]

A direct approach to the monuments of the past through its living practitioners is implied; the architect and workmen building the temples at

[6] James Fergusson, *History of Indian and Eastern Architecture,* London 1876, pp. vi and vii. Fergusson stressed the importance of photography and proudly claimed that he had more than three thousand photographs of Indian architecture, and felt that for the purposes of a work such as his it "has probably done more than anything that has been written." In view of this, the very limited extent to which photography was used is quite surprising. Gustav Le Bon, *Les monuments de l'Inde,* Paris 1893, regrets this and attributes the idea of the barbaric nature of Indian art prevalent abroad to the terrible illustrations of Cunningham and other English scholars. Le Bon's book, of course, had splendid photographs and he, for his part, would have much preferred exact reproductions without text rather than learned texts with bad illustrations. He even omitted plans from his book, because he felt that they had been thoroughly abused. Photographs, particularly details, were far more successful in giving an idea of the exquisite workmanship of Indian art and conveying its true nature.

[7] *An Historical Inquiry into the Principles of Beauty,* pp. xiii-xiv. I have not been able to resist the temptation of quoting extensively from Fergusson in order to give the reader some slight indication of his fine literary style.

Palitana would reveal to the "philosophical student of architectural art" not only the truth about Indian architecture, but the "processes by which the cathedrals were produced in the Middle Ages."[8] This direct approach, of seizing the building by its horns, so to say, was the great strength of Fergusson's work; it's greatest weakness, his firm conviction in the superiority of the Anglo-Saxon over the Asiatic, particularly when he wrote on Asiatic architecture, distracting our attention from his enduring achievement and also leading, in spite of himself, to a peculiar kind of blindness which prevented him from pursuing those lines of enquiry which he was naturally qualified to do.

The intensity with which Fergusson explored and studied buildings is a natural consequence of this direct approach to architecture. He spent months among the monuments, endlessly pondering and reflecting over them "until I could read in the chisel marks on the stone, the ideas that guided the artist in his design, till I could put myself by his side, and identify myself with him through his work."[9] It was thus on the basis of his direct experience with the architecture of India, without preconceived notions, and free from the trammels of the stereotyped opinions of the age[10] (except, of course, for the belief in European superiority) that he was able to formulate his philosophical principles and a theory of architecture which on his return to England he proceeded to apply to the criticism of world architecture as a whole. And to him the world was not just Europe, but all of it, including such disregarded areas as India, Armenia, and pre-Columbian America.[11]

Fergusson envisaged a sharp distinction between what he called the True Styles, and the Copying or Imitative Styles of Architectural Art. All buildings belonging to the True Styles were "arranged solely for the purpose of meeting, in the most direct manner, the wants of those for whom they were designed; and the ornamentation that was applied to them either grew naturally out of their construction, or such as was best suited to

8 *History of Indian and Eastern Architecture*, Vol. I, p. 228.

9 *An Historical Inquiry into the Principles of Beauty*, p. xiv.

10 *Ibid.*

11 "Fergusson," says a distinguished modern historian of architecture, "was writing for the mind, he was striving to understand architecture in a universal way, to grapple with the staggering variety of world architecture over a time span of 5000 years and discover the essential unity; and it should be remembered that much of this was being newly discovered and had the impact of news." See Bruce Allsopp, *The Study of Architectural History*, New York 1970, p. 67.

express the uses or objects to which the building was applied." Consequently buildings of this type, irrespective of their defects, possessed of necessity a "purpose-like truthfulness" and "some of the most important elements of architectural excellence." This truthfulness, he further declares, permits us to draw analogies between the works of true architecture and the works of Nature, it being consequently inevitable for us to receive from the contemplation of true architecture the same class of gratification as from nature; "for though they do not emanate from the same high intelligence, they are the result of the same process in so far as it is given to us to understand it: their form is the same, while they appeal more familiarly to our own feelings, and gratify even more directly our own desires."[12]

Imitative Styles, by contrast, are thoughtless copies and whatever their other merits may be, "the element of truthfulness is altogether wanting," degrading architecture from "its high position of a quasi-natural production to that of mere imitative art."[13] It was to this category that Fergusson assigned all European architecture after 1500 including the revivalist architecture of his own times while to the True Styles belonged Egyptian, Classical, Chinese, Medieval, and of course Indian architecture.

While Fergusson's work had a notable popular impact, it first commanded the great respect of his more learned colleagues. Heinrich Schliemann in dedicating *Tiryns* eulogises him as "the historian of architecture, eminent alike for his knowledge of the art and the original genius which he has applied to the solution of its most difficult problems."[14] And though Fergusson's work is now being largely overtaken, it would seem fitting that in preface to our own labors we join Schliemann in recognizing the original genius which allowed him to see clearly the basic qualities of Indian architecture in spite of the general contempt in which Indian art as a whole was held in Europe at that time. He was not deflected by the sumptuosity and richness of the material, so disturbingly barbaric to many, or by the fashionably reckless attacks levelled against it. On the contrary, he saw no lack of respect for the nature of materials, and no disregard of function as he understood it. With uncanny intuition, he felt the perfect adaptation of form to function in Indian temples even though he was never fully aware of that function beyond the obvious and never indicated an

[12] James Fergusson, *History of the Modern Styles of Architecture*, 3rd Edition, London 1891, Vol. I, p. 3. The first edition was published in 1873.

[13] *Ibid.*, p. 4.

[14] H. Schliemann, *Tiryns: The Prehistoric Palace of the Kings of Tiryns*, New York 1885.

inclination to explore further the symbolic possibilities. This is rather unfortunate, and may perhaps have been due to his ignorance of the language, a lack which together with his irritating racial prejudices prevented him from ever conceiving that the Indian was as capable of profound thoughts and their expression in art as the Anglo-Saxon. While we might suspect that without this rather naive bias, Fergusson's work would have been of even greater merit, it is our recognition of his prejudices, ironically enough, that allows us to appreciate more fully the fundamental strengths of his contribution.

Turning now to Fergusson's specific work on Indian architecture, and knowing the process by which his thoughts evolved, it is hardly surprising to note his insistence on art history as a discipline valid in its own right, and not as a handmaid to other disciplines. Fergusson was quick to point out, for example, that although useful, Cunningham's work had been done "from the archaeological rather than the architectural point of view"[15] and for himself he always preferred to base his conclusions on the evidence afforded by the work of art or architecture itself rather than that provided by let us say history or ethnography. Furthermore, Fergusson maintained, particularly with reference to India, that it was architecture that illustrated ethnography, fixed the ever varying forms of religion and reconstructed history. Even language and literary sources are a poor substitute; for architecture "is more distinct, it never shifts its locality, and it does not change with time," and permits us to know exactly the religion, the art and the civilization of the people who built its monuments.[16]

In taking this position, and by underestimating the value of other evidence at times, Fergusson, particularly in his earlier works, committed some errors that had to be later rectified. Often, however, his mistakes can be accounted not so much to intransigence as to the vague and tenuous nature of historical scholarship at the time, and to which he was not willing to give precedence over evidence afforded by the monument itself. It is important that although he erred occasionally with respect to the assignment of specific dates to certain monuments, the sequential outline which he established remains largely unchanged. In any case, it appears that Fergusson was seldom averse to modifying his views in the light of what seemed to him to be sound historical argument. His fundamental reliance on the intrinsic evidence of the work of art itself though fresh and startling when

[15] *History of Indian and Eastern Architecture*, Vol. I, p. v.

[16] *On the Study of Indian Architecture*, p. 11.

first attempted should now be axiomatic, but perhaps requires repetition as contrary views continue to be evident in some studies of Indian art even now, a hundred years later. Some are still inclined to study a monument or any other work of art not in its own right and the logic of the discipline of which it forms a part but what can be best described as peripheral considerations, often resting on the most doubtful premises. One need only recall the attempts to date the great *caitya-gṛha* at Karla where it was not the style of the monument and the sculpture that was the crucial consideration but the name of a ruler which occurs in an inscription and whose identity and date was determined on the flimsiest of grounds. This is not to say that history, palaeography, and even Carbon 14 dating may not contribute to the solution of a particular problem; but it is the duty of the art-historian to depend primarily on the tools of his trade and not those of others, more so when those tools are weak and unreliable.

As we return to Fergusson from time to time it becomes apparent that his great strength was his adherence to principles of architectural history as he viewed them, and his success in establishing a workable outline of Indian architecture, providing what he would have called a handbook or elementary grammar that could well serve as the basis for future work. The basic classification by religious denomination into Buddhist, Hindu, and Jaina styles is no longer tenable. Fergusson himself seems to have been aware of the complexities and realized that "there was not only one Hindu and one Muhammadan style in India, but several species of each class; that these occupied well-defined local provinces, and belonged each to ascertained ethnological divisions of the people."[17] He thought also in terms of regional categories namely Dravidian, Northern or Indo-Aryan and Himalayan, as well as a dynastic one, the Chalukyan, a term with which he was himself unhappy, characterising it as a temporary and conventional name for the style existing in the yet unexplored borderland between the Northern and the Dravidian styles.[18] It is evident thereby that all the ingredients for a clear classification and study of Indian temple architecture are present in Fergusson's pioneering work together with the processes of reasoning on which they were based. This provides a foundation for further intellectual dialogue, an indispensable condition for the advancement of learning, which is more than what one can say for several who followed him.

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[17] *Ibid.*, p. 6.

[18] *History of Indian and Eastern Architecture*, Vol. II, p. 21.

Considering the rudimentary state of Indian researches, the foundations of Indian architectural studies could hardly have been better laid. The lack of knowledge of a larger number of monuments which would have added to the authority of his work is one for which Fergusson can hardly be blamed, for he worked single-handed and largely out of his own resources, and was forever urging wider and more comprehensive documentation.[19] In applying the "principles of archaeological science which are universally adopted not only in England but in every country of Europe"[20] he was eminently successful. To my mind, however, the one essential weakness of his work, and one which in spite of its breadth lends it a certain provincial and narrow outlook, was his inability to study Indian temples from the point of view of those who made them and for whom they were made, the people who worshipped them and their images, and his failure to tap the knowledge contained in the *śilpa-śāstras* or that possessed by traditional architects. We note, for example, that Fergusson disregarded the lines of enquiry already initiated by Ram Raz, whose work had appeared while he was in the thick of his labours, and seems to be singularly unaffected by it.[21] One explanation of this, already mentioned, might be his self confessed lack of acquaintance with Indian languages and also a lurking disbelief in native scholarship. Our criticism of Fergusson on this count, however, cannot be allowed to detract from the great achievement of placing the study of Indian architecture, considering the scanty and uncertain nature of the data, on the same level of scientific achievement as the study of European architecture at that time. When he began, to use his own amusing words, all was "darkness and uncertainty, and there is scarcely a work on architecture published or lecture read, which does not commence by a comparison between the styles of India and Egypt, and after pointing out a similarity which seems to be an established point of faith in Europe, though in reality no two styles are more discordant, the

19 " . . . but the real cause of our ignorance on the subject is the indifference and apathy to such matters in those who rule the rulers, and who if they chose, could clear up the whole mystery in a few months or years, and with little expense to themselves beyond expressing a wish that it should be done." See *History of Indian and Eastern Architecture*, Vol. II, p. 3.

20 James Fergusson, "Note on Babu Rajendralal Mitra's Paper on the Age of the Caves at Ajanta," *JRAS* XII (1880), p. 141.

21 The only reference to Ram Raz that I have noticed in Fergusson's work is in *Rock Cut Temples of India*, p. 8. This is to acknowledge indebtedness for the terms 'vimana' and 'mantap'!

author generally proceeds to doubt which is the more ancient of the two, and in most cases ascribes the palm of antiquity to the Indian as the prototype."[22] By the time he had completed his work, about forty years later, a large number of monuments had been described and surveyed and a broad stylistic development established. It was all rather splendid and admirable. The study of Indian architecture had begun by functioning at a much more advanced level than research on any other branch of Indian art, whether sculpture or painting, though the pace, unfortunately, was not consistently maintained.

While Fergusson was tramping the Indian countryside there landed in Calcutta an officer of the Bengal Engineers, Alexander Cunningham (1814-1893), younger by six years, and destined to become one of the great pioneers of Indian archaeology. It was the year 1833 and Cunningham promptly fell under the spell of the charismatic Prinsep who had indeed been a source of inspiration to Fergusson as well. Cunningham's association with Prinsep was particularly close and led him first to study coins, his early publications being mostly concerned with them. His official duties sometimes involved travel and geographical exploration; and taking advantage of contacts made with Gulab Singh, the Maharaja of Kashmir, during boundary discussions, he surveyed the temples of Kashmir and later published a lengthy and important article.[23] During the next ten years his main antiquarian researches concerned themselves with the Bhilsa topes, and in 1861 he persuaded the Government of India to take the momentous step of establishing the Archaeological Survey of which he became the Surveyor. Abolished in 1865, it was reestablished in 1870 with Cunningham as its head till 1885. The territories he covered for the Survey included all of north India, from the north-west frontier to Bengal and much of modern Rajasthan and Madhya Pradesh; the 23 volumes of his reports published from 1863-1867 are an indispensable source of materials not only to students of Indian architecture but of other antiquarian remains as well.

To Cunningham, "architectural remains naturally form the most

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22 *Rock Cut Temples of India*, p. 1. A curious survival of these ancient ideas, now reversed, is to be seen over a hundred years later in 1962. See Moti Chandra (editor), *Seminar on Indian Art History 1962*, New Delhi, 1962, p. 34. The ideas attributed there to Coomaraswamy are entirely without foundation.

23 Alexander Cunningham, "An Essay on the Arian Order of Architecture as Exhibited in the Temples of Kashmir," *JASB* XVII (1848), pp. 241-327.

prominent branch of archaeology"[24] and it was inevitable that he discover, describe, and date a large number of temples, particularly in the surveys of Madhya Pradesh and Rajasthan, which were published only after the appearance of Fergusson's *History of Indian and Eastern Architecture* in 1876. Had Cunningham's *Reports* appeared earlier, they would have further contributed to the value of Fergusson's account. Aside from invaluable discoveries resulting from exploration, Cunningham's own particular contribution to the study of Indian architecture was his work on the temples of the Gupta period. He was able to trace the broad outlines for the first time and postulated, no doubt under the influence of the evolutionary hypothesis which had earlier affected Fergusson,[25] a development from the flat-roofed temple to one with a spire.[26]

Beyond this Cunningham contributed little except an expansion of the corpus of monuments. He did not, for example, follow up the concepts of architectural history developed by Fergusson. Rather, his emphasis was somewhat different as is to be seen in his criticism of Fergusson made in 1871 where he insisted that with regard to chronology, architectural evidence was of a corroborative nature and it was the evidence of the inscriptions which deserved the principal attention.[27] The two points of view were hardly irreconcilable and Cunningham actually agrees with Fergusson's chronology of medieval architecture remarking that in this instance "the process of deduction, based on actual dates" was acceptable; and we know that Fergusson was always willing to modify his conclusions on the evidence of dates arrived at on grounds acceptable to him. But what is significant is Cunningham's emphasis on a point of view which led him

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24 *ASIR* III (1873), p. iv.

25 Allchin, "Ideals of History in Indian Archaeological Writing," in C.H. Philips (editor), *Historians of India, Pakistan and Ceylon*, p. 242, quotes an interesting remark by Thomas Huxley, who after a meeting of the British Association in 1868 said: "The only fault was the terrible 'Darwinismus' which spread over the section and crept out when you least expected it, even in Fergusson's lecture on 'Buddhist Temples.'" Fergusson had actually developed his theories, or at least several of them, before the publication of the *Origin of Species* in 1859, but was no doubt later affected by its ideas.

26 See *ASIR for the years 1874-75, 1876-77*, X (1880), p. 110. The theory struck its author so forcibly that all flat-roofed temples were assigned by him without much ado to the Gupta period. The Pataini Devi temple of the 11th century was thus considered by him to be of the Gupta period (*ASIR* IX, p. 31) though it once had a *śikhara*, fragments of which are still lying at the site.

27 *ASIR* I, p. xx.

to exclude from inspection temples which to his knowledge had no inscriptions. The architecture, of its own right, was of secondary importance.[28]

What gave Cunningham's studies of architecture value (as distinguished from that of his assistants) I suspect, was his great familiarity with India and things Indian. His prolonged residence here, his wide travels in the cities and in the countryside, his first hand acquaintance with the land, the people, and their traditions, and his extensive knowledge of history and religion provided him with an uncanny intuitive insight often denied to foreign scholars. He was, therefore, more often than not, proved to be right in his pronouncements, whether they were justified by elaborate reasoning or not. To Cunningham credit must also be given for emphasising a classification based upon time rather than religion, though he gives his periods such exotic names as Indo-Grecian, Indo-Scythian, Indo-Sassanian and so on, clearly suggesting a derivative nature for Indian achievement. This was a deep seated prejudice that was shared by most foreign scholars of his time, and is not quite dead even at the present day.

In addition to the work of Fergusson and Cunningham, sporadic exploratory efforts mainly devoted to the accumulation of factual knowledge were being carried out in several parts of India. In many of these is to be seen the indefatigable hand of Fergusson who never ceased to exert pressure upon the appropriate authorities from his vantage point in London where he had taken up residence after his return from India and where, as I have said earlier, he had gained recognition and fame as the foremost authority not only on the history of Indian but world architecture as well. There thus came into existence the Bombay Cave Temple Commission (July 1848-1861) with John Wilson as president followed by the Commission of Architectural Antiquities established by Sir Bartle Frere, the enlightened Governor of Bombay with, significantly enough, financial backing from the Indian gentry of the city. It was the intention to publish several volumes on Indian architecture, but only three appeared, two on the architecture of Ahmedabad and Bijapur and a third on the architecture of Mysore and Dharwar, all illustrated by photographs and prefaced by Fergusson himself. After the temporary abolition of Cunningham's Survey in 1866, work proceeded in a somewhat haphazard manner, including Rajendralala

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28 Thus Cunningham heard of a temple at Madhia but did not visit it as it had no inscriptions (*ASIR* XXI, pp. 100-101). I suspect it is the same temple that I visited in 1968, and it proved to be a very interesting example throwing much light on several features of Gupta architecture.

Mitra's survey of the antiquities of Orissa which led to an unseemly and bitter controversy between him and an aging Fergusson. An abortive attempt was made to photograph monuments under the sponsorship of the Madras Government and the Bombay Government commissioned a series of drawings of the Ambarnath temple by students of the local School of Art. An archaeological department was organized in the United or Upper Provinces with Major Cole in charge, who published his *Illustrations of the Ancient Buildings of Kashmir* in 1869, a work of little merit relying heavily on what Cunningham had written twenty years before. The *Report of the Illustrations of the Archaic Architecture of India* (1869) by Forbes Watson, with contributions by Fergusson, Cunningham and Colonel Meadows Taylor, is a collection of memoranda outlining proposals for the study and conservation of monuments. It hardly advanced our knowledge of architecture, but does give a clear intimation of the vast amount of work that remained to be done.

As far as architectural studies are concerned Cunningham, as noted above, was hardly a follower of Fergusson, either in method or philosophy, and it was left to James Burgess (1832-1916), who like Cunningham hailed from Dumfriesshire in Scotland, to take up the mantle of Fergusson's discipleship. This he did with great competence and an almost tiresome loyalty, for his work is comparatively pedestrian and stolid, lacking the penetrating analysis and forceful presentation of Fergusson. Burgess came to India in 1855 as a professor of mathematics at Doveton College, Calcutta, and in 1861 moved to Bombay where he had been appointed head of the J. J. Parsi Benevolent Institution. During his residence in the city he became greatly interested in architecture and about this time seems to have developed a friendship with Fergusson.[29] His first important publication was on the temples of Satrunjaya (1869) followed by the *Rock Cut Temples of Elephanta* (1871) two years later. In 1874 he was appointed Archaeological Surveyor and Reporter to Government for Western India and set out publishing briskly and methodically three splendid volumes within the next four years: *Report on the Antiquities of Belgam and Kaladgi District* (1874), *Report on the Antiquities of Kathiawad and Kachh* (1876); and *Antiquities of Bidar and Aurangabad Districts* (1878). Well illustrated with drawings and some

[29] Writing in the introduction of the revised edition of Fergusson's *History of Indian and Eastern Architecture* published in 1910, Burgess speaks of his friendship with Fergusson for over twenty years. This would indicate that the two men came into contact with each other about 1866, Fergusson having died in 1886.

photographs, they far surpassed in scholarly quality the work being brought out contemporaneously by Cunningham and his assistants, adding greatly to our information on temple architecture. In 1880 Burgess published jointly with Fergusson the monumental *Cave Temples of India* in which Fergusson himself states the identity of views shared between him and Burgess: "There is, however, really nothing of importance on which we were not agreed."[30] Large as the work was, the materials which could not be accommodated were published in 1883 in two excellent and well-illustrated volumes, namely the *Report on the Buddhist Cave Temples* and the *Report on the Ellura Cave Temples,* the inscriptions treated by the distinguished epigraphist G. Bühler. In the meanwhile, south India, which was lagging behind in architectural research, had been added to Burgess' responsibilities with his appointment as Architectural Surveyor and Reporter for West and South India in 1881. He had also secured the able assistance of Henry Cousens in Western India and Alexander Rea in south India, and together they carried out vigorous exploratory surveys throughout the entire territory. Publication was a little slowed down as a result of the concentration on field work and additional administrative responsibilities the next significant work on architecture to appear being Burgess' *Antiquities of the Town of Dabhoi in Gujarat* (1888), three years after he succeeded Cunningham as the Director-General of the Archaeological Survey. Burgess' concern with publications was such that he retired prematurely from office in 1889 to be able to devote his entire energies to them. Thereafter appeared the *Architectural Antiquities of North Gujarat* (1903) written jointly with Cousens, a work of great importance for medieval temple architecture. In 1910 Burgess published a new and thoroughly overhauled, rearranged, revised and enlarged edition of Fergusson's *History of Indian and Eastern Architecture* to which he contributed a great deal of new information based upon his own researches, a work which still remains the general standard text on Indian architecture. During his tenure of office a vast amount of material had been gathered and in 1905 he pleads for their publication.[31] In the preface to his new edition of Fergusson's *History* he is already complaining of the lack of cooperation from the Survey, forcing him to seek the intervention of an authority as high as the Secretary of State for India. The signs were clear. The official contribution to the rather brilliant early phase of Indian architectural studies

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[30] James Fergusson and James Burgess, *Cave Temples of India,* London, 1880, p. xviii.

[31] James Burgess, "Sketch of Archaeological Research in India during Half a Century," *JBBRAS* XXI, Extra Number (1905), p. 148.

initiated by Fergusson who always worked in a private capacity, and without much cooperation from Government, was coming to an end. The major works of Cousens, published when Sir John Marshall was Director-General, were really long delayed appearances of work done under Burgess.

Of all the scholars of the Archaeological Survey of India, with whose activities the progress of Indian architectural studies has been so intimately linked, it would be fair to say that there was none more strongly devoted to architectural history than Burgess, and his methods, almost indistinguishable from those of Fergusson, dominated the direction of official architectural research, for better or for worse, for a considerable period of time. "Archaeology being but the history of Art," (and how delightful his words sound at a time when this is denied at least by all archaeologists), he "attempted to provide a fairly complete illustration and history of ancient and medieval architecture down to the decline of the Muhammadan styles;"[32] the extent to which he was able to do this is remarkable. It would be a mistake, however, to compare Burgess' methods with those of Cunningham, for they were manifestly superior, their intellectual underpinning being provided by Fergusson's philosophy of architecture. True Burgess' work made greater use of epigraphical sources but this is largely a matter of accident, due perhaps to the greater progress achieved in this branch of study and to the good sense he displayed in obtaining the cooperation of the leading epigraphists of his time, notably G. Bühler and James Fleet. Nor did Burgess approve of the unconnected and episodic nature of Cunningham's presentations, his ideal being carefully arranged and analytical studies, "with full and accurate descriptions of the monuments, indicating their relations to whatever is already known, their relative chronological positions, and, generally, to supply the information available in a form so far final that both historical and art students can with confidence apply to the reports for the light they throw on their researches."[33] Burgess did see the contradiction between what he wanted to present and the insistence of Government on immediate results for his reports are not quite what he wished them to be; still, however, he defined more narrowly the scope of his tours thus giving his reports an overall homogeneity. His publications with their clear and succinct descriptions, wealth of illustration, and excellent epigraphical studies are models of their kind, and scholars can and do apply to them as sources of the greatest reliability.

Burgess' chief achievements were in amplifying the broad outline of

[32] Quoted in S. Roy, *Story of Indian Archaeology*, New Delhi 1961, p. 66.

[33] James Burgess, "Sketch of Archaeological Research," p. 147.

Indian architecture created by Fergusson. The basic structure of Fergusson's work was left intact, nor were any illuminating concepts added to it. While Burgess seems to have lacked Fergusson's inclination for "philosophical enquiry," his work was even more thorough, providing more sound and more accurately studied materials from which he was able to modify his framework, provide more detail, and establish more clearly the chronology of monuments. He nevertheless maintained Fergusson's denominational classifications even though Fergusson himself was tentative and diffident about them and Burgess had unearthed enough new monuments to put his mind to this problem afresh. It would thus not be incorrect to describe Burgess as a devoted follower rather than a blazer of new trials. We know that he cooperated and consulted closely with Fergusson, but while Fergusson had genius, his works being challenging, thought provoking, and presented with great literary flair, Burgess was more a man of method rather than an innovator, stolid and earthbound, ably amplifying, supporting, and backing his mentor. One wonders if the overpowering strength of Fergusson and his dominant reputation might not itself have had the effect of discouraging fresh thinking, and we observe that few Western scholars, with the one notable exception of E.B. Havell, were disposed to challenge his supremacy. As a result, while study of Western architecture after Fergusson developed in the most remarkable manner and in a variety of ways, that of Indian architecture, particularly in Indian official circles, seems to have been securely imprisoned within Fergusson's framework. It showed no contact with new developments and gradually became a backwater. The Indian sources, for example, continued to be scrupulously avoided. Burgess makes the same feeble reference to Ram Raz[34] which Fergusson had made thirty years earlier, particularly surprising as Burgess had worked for some time at Satrunjaya which had a flourishing school of active traditional architects. When Henry Cousens, Burgess' assistant, writing jointly with him in 1903, attempted to use a more extended Indian terminology, Burgess' reaction was somewhat negative on the ground that "few of these terms are to be found in our lexicons and their precise forms can hardly be controlled out of India."[35]

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[34] James Burgess, *Report on the Antiquities of the Belgam and the Kaladgi Districts,* London 1874, p. 2. Cunningham, "Essay on the Arian Order," pp. 295 ff., did try to make some use of Ram Raz's work in his analysis of Kashmir architecture, but not very successfully and he seems to have given up the attempt in his later work.

[35] James Burgess and Henry Cousens, *Architectural Antiquities of North Gujarat,* London 1903, p. vi.

Fergusson in his writings on Indian architecture was much concerned with problems relating to the origins of the forms,[36] drawing our attention to the wooden antecedents of the cave temples, and the gateways and railings of Buddhist stupas, a feature that is so much a part of our thinking that it hardly needs mention but was in the nature of a revelation when first made. W. Simpson, an admirer of Fergusson, who wrote several articles between 1861 and 1868 in the *Transactions of the Royal Institute of British Architects* and *Journal of the Royal Asiatic Society* also concerned himself with the problems of origins and mutations in Indian architecture and was able to shed much light on the relationships between the various forms and the manner in which they were transposed to other mediums and subsequently transformed in the course of time. In close touch with Fergusson, he made several original contributions to the various problems based mainly upon direct observation and careful reasoning. Work of the type done by Simpson led to the speculations of A.A. McDonnell, the eminent Sanskritist, who traced the origin of the Indian temple from the Buddhist stupa. According to McDonnell the first progression in this evolution was from the plain, solid and semi-circular dome of the stupa resting on a cylindrical drum to one with an elongated dome and provided with a cell in its interior containing an image of the Buddha. The round drum next took on a square shape which was more appropriate to the cella, while the temple spire developed from the elongated dome, retaining its curve, the *āmalasāraka* deriving from the umbrella.[37] A.H. Longhurst, in an attempt to embroider on this thesis, grossly exaggerated the importance of the umbrella in Indian architecture.[38] More sensible were his remarks on the origin of the South Indian temple, where he draws attention to its relationship with "dolmen temples" as well as the stupa in addition to the *vihāra* which Fergusson had already

[36] *History of Indian and Eastern Architecture,* Vol. II, p. 27.

[37] A.A. McDonnell, "Buddhist and Hindu Architecture of India," *Journal of the Royal Society of Arts* LVII (March 5, 1909), pp. 316-329. F.S. Growse, a remarkable civilian who wrote a most informative and delightful *Mathura, A District Memoir,* 3rd Edition, 1883, had already suggested the origin of the *śikhara* to be in the stupa in an article written in 1878 ("Mathura Notes," *J.ASB* XLVII (1878), pp. 114-115), a suggestion first dismissed by Fergusson as an unfounded lucubration (*Cave Temples of India,* p. 32) though he seems to have had second thoughts later (*Archaeology in India,* London 1884, pp. 68-74). Growse was a great exponent of indigenous architecture and actually built a curious Roman Catholic church in Mathura in the native manner, an early if awkward example of the Indian revival.

[38] A.H. Longhurst, "Influence of the Umbrella on Indian Architecture," *Journal of Indian Art* XVI, No. 122 (October 1914), pp. 1-8.

noted.[39] Though the arguments of both McDonnell and Longhurst may not be fully convincing, they mark a further step in the architectural dialogue and are full of interesting ideas.

The Fergusson-Burgess tradition was continued by Henry Cousens (1854-1934) and Alexander Rea, both of whom began their careers under the guidance of Burgess, their works revealing a clear indebtedness to his methods. Rea published two works with plans and drawings, one on Cāḷukya and another on Pallava architecture,[40] painstakingly adding to our knowledge of the monuments. Cousens published three large monographs, one on the *Chalukyan Architecture of the Kanarese Districts* (1926), the second on *Somnath and other Medieval Temples of Kathiawad* (1931) and the third on the *Medieval Temples of the Dekhan* (1931)[41] which would have been much appreciated by Burgess had he been alive; for they held firmly to his methodology, were profusely illustrated, and clearly evidenced attempts to come to conclusions on the basis of stylistic criteria. One criticism of these works might be that only groups of temples are presented, no individual temples being taken up for extended and detailed consideration. They are also disappointing in that Cousen's own attempt of 1903 to develop new avenues of approach by working together with traditional architects and texts was in no way pursued.[42] At that time, when his career had just begun, Cousens seems to have come in contact with the traditional *salāṭs* of Gujarat, survivors of the great architectural guilds of ancient times, and the Gujarati architectural texts they used. These he thought were based on Sanskrit texts of the *śilpa-śāstras* in Jaina temple libraries "where they are jealously locked up in huge chests."[43] Cousens was quick to realize their importance: "The old *śilpa* texts are well worth study in order that we may intelligently and correctly understand the old methods and the structural remains of ancient works. They have a place in the history of Indian architecture as Vitruvius has in Western art."[44] He regretted that Ram Raz's work had not been followed up by the publication of

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39 *ASIAR, SC*, 1915-16, pp. 28-35.

40 A. Rea, *Chalukyan Architecture of the Bellari District,* Madras 1896 and *Pallava Architectures,* Madras 1909.

41 These works were apparently written earlier, their publication being much delayed, the 1931 volumes appearing only three years before Cousens' death at the age of eighty, over twenty years after his retirement from the Survey.

42 James Burgess and Henry Cousens, *Architectural Antiquities of North Gujarat*, pp. 21-28.

43 *Ibid.*, p. 21.

44 *Ibid.*, p. 23.

Northern texts. He was also aware of the difficulties in the interpretation of these texts because the technical terms used had often quite a different meaning from the usual ones, but he nevertheless, presumably with the help of practicing architects, gave a fairly accurate version of the most important, together with an interesting drawing of a pillar naming its various parts, thus defining its various constituent units. Cousens also made some attempt to use these terms when dealing with Gujarat architecture, so that his descriptions gain to that extent a precision and correctness not found earlier, and this surely, is one reason why his work on Kathiawad architecture is more eminently satisfactory than his works on Cāḷukya and Deccan architecture. Cousens also made use of the knowledge and experience of the traditional architects in exploring specifically architectural problems, most especially concerning the plan of the largely destroyed Rūdramahālaya at Siddhpur[45] wherein he again suggested a path for fruitful and cooperative work between the modern historian of architecture and its practitioners. His lead, however, was not taken up, at least by the professional archaeologists, who, with their intimate knowledge of the monuments, could have been expected to exploit this approach most successfully.

Meanwhile, work of a different type had been initiated by the notable French scholar A. Foucher (1865-1952). Based on extensive field research carried out from 1895-1897, he produced his great work on Gandhara art of which over 150 pages are concerned with architecture.[46] By a thorough study of surviving architectural ruins, which had escaped, as he wryfully remarks, the enterprise of the Military Works Department, and the various types of buildings represented in relief sculpture, and by correlating them with the literary evidence of Buddhist, as distinguished from architectural texts, he was able to draw a very clear picture not only of the architecture of Gandhara but also of other parts of India during the early centuries after Christ. In this extremely informative essay, he was able to bring to life Indian architecture of an age from which hardly any monuments, however ruined, had survived; and, what is more, he illuminated many problems of later temple architecture, particularly with reference to origins. Similar work had been tentatively attempted by Fergusson who had utilized early Indian reliefs, and also Simpson, but Foucher consummately elaborated on these.

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[45] *Ibid.*, p. 65.

[46] A. Foucher, *L'art gréco-bouddhique du Gandhâra*, Paris 1905, Vol. I, pp. 45-201.

One of the most outstanding contributions to the study of Indian architecture since Fergusson was made by yet another French scholar, G. Jouveau-Dubreuil, with the publication in 1914 of his fine two-volume book on Dravidian architecture and iconography, a work dedicated, significantly enough, to Foucher.[47] The first volume is entirely devoted to architecture and confines itself to the temples of the Tamil speaking country stretching along the Coromandel coast from Lake Pulicat to Cape Comorin.[48] In contrast to the cave temples and the temples of north India, south Indian architecture had hitherto received little attention, and Fergusson's study based on superficial acquaintance was brief and, surprisingly, perfunctory and prejudiced. Beyond stating that the origins of the south Indian temple were easy to trace back to the Buddhist *vihāra* he had little to say that was significant.[49] Though Burgess, recognising this, paid considerable attention to the South and initiated a survey of the monuments carried out by R. Sewell and followed by A. Rea, resulting in the publication of a list, and a volume on Pallava architecture, both essentially descriptive, the latter with good plans and elevations,[50] real advancement was to wait upon Jouveau-Dubreuil. Though good photographs and descriptions form an important basis for the study of architecture, he declared, there is a difference between mere description and an analytical study which involves comparison and systematic classification, and leads to the discovery of the laws according to which the monuments were built: "Il importe de faire l'anatomie et la paléontologie des edifices."[51]

The method which Jouveau-Dubreuil adopted for the discovery of the laws that formed the basis of the styles of Dravidian architecture was a comparative study of ornamental motifs. He first isolated the set of significant motifs that constitute the orders with considerable precision by carefully interrogating the builders of the Tirupappuliyur temple in Cuddalore,

47 G. Jouveau-Dubreuil, *Archéologie du sud de l'Inde,* Paris 1914, 2 vols. A greatly abridged translation into English of the first volume appeared under the title *Dravidian Architecture,* Madras 1917. His *Pallava Antiquities,* 1916-1918, 2 vols., studies the Pallava period at greater length.

48 It is the temples of this specific area that Jouveau-Dubreuil refers to as Dravidian, preferring this name because of the broader denotation of South Indian architecture. In the discussion of his work, I have used the term in the sense that he uses it.

49 James Fergusson, *History of Indian and Eastern Architecture,* Vol. I, pp. 326-379, particularly pp. 331 and 342.

50 R. Sewell, *Lists of the Antiquarian Remains in the Presidency of Madras,* Madras 1882, and A. Rea, *Pallava Architecture,* Madras 1909.

51 Jouveau-Dubreuil, *Archéologie du sud de l'Inde,* p. 4.

and by obtaining from them the precise vernacular names of the various parts, whether in writing or orally. By next scrutinising temples, securely datable on the basis of their inscriptions, it was possible for him to specify the precise patterns of the motifs that characterised each of the Dravidian temple styles and thus classify all Dravidian architecture on a chronological basis.[52]

A study of Dravidian temple architecture led Jouveau-Dubreuil to next affirm that there existed in each period only one style, what he calls rather ponderously "la principe du synchronisme des monuments dravidiens" making the task of the architectural historian much easier than would be the case if there were more than one single style during a period as is the case, for example, with French architecture.

Addressing himself to the reasons for the stylistic differences between the Pallava (c. A.D. 600-850), the Coḷa (c. A.D. 850-1100), the Pāṇḍya (c. A.D. 1100-1350),[53] the Vijayanagara (c. A.D. 1350-1600) and the Madura (c. A.D. 1600 onwards) styles, into which he divides Dravidian temple architecture, Jouveau-Dubreuil rejects entirely the notion of this being due to the intervention of any influence from outside the Tamil country, affirming on the contrary that the ornamental motifs of Dravidian architecture were free from any Cāḷukya, Islamic or Vijayanagara influence. The changes that did occur throughout the 1300 year history of the Dravidian style were either by way of natural evolution, "voie d'évolution naturelle"; or, to draw a biological analogy, "la morphologie des monuments dravidiens nous apprend que les formes architecturales se sont transformées lentement, de même que l'anthropologie préhistorique montre que le crâne humain a passé toutes les phases intermédiaires entre la forme presque simiesque et la forme actuelle. Il y a la même difference entre le style de temple de Madura et celui du vimâna de Tanjore qu'entre l'homme actuel et la race de Cro-Magnon."[54]

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[52] *Ibid.*, p. 5.

[53] Jouveau-Dubreuil later amended his nomenclature by calling the period *c.* 850-1100 Early Chola and most of the Pandya period, *c.* 1100-1300, Later Chola. See *Dravidian Architecture,* Madras 1917, p. 36.

[54] Jouveau-Dubreuil, *Archéologie du sud de l'Inde,* Vol. I, p. 8. We see here a rather strong case of the manner in which Darwinian theories were beginning to affect other disciplines. Cf. fn. 25 *supra.* Jouveau-Dubreuil was particularly fond of these analogies: ". . . de même que tous les animaux d'une même éspèce présentent tous les mêmes caractères, ainsi toutes les pagodes d'une même époque se ressemblent," *ibid.*, p. 9. Again, *ibid.*, p. 154, he speaks of architecture adapting itself to materials and societies just as animals are subject to the law of adaptation to environment.

By combining a first hand knowledge of the actual monuments and the living traditions of the *śilpis* and subjecting these to a logical and systematic application of a sound and appropriate methodology, Jouveau-Dubreuil was able to present a history of Dravidian architecture that excelled previous achievements in the stylistic study of any aspect of Indian architecture. Particularly is this so if we remember that the dynastic appellations for the styles as they are actually used in his work are convenient labels for a given period of time and do not have any more specific content. The possibility that his methods could be applied, directly or in a modified form, to the architectural styles of other regions of India also held promise. Jouveau-Dubreuil himself was able to distinguish clearly on stylistic grounds the so-called Cāḷukya architecture from the architecture of the Tamil country with which it had been lumped together earlier.[55] Though his contributions are now beginning to be modified in details, and further amplified by the discovery of a richer variety even within Dravidian architecture than Jouveau-Dubreuil had suspected, the basic stylistic and chronological conclusions still stand.

The greatest objection to his method, however refined and complex it may have become, and one which he himself anticipated to some extent, was his exclusive reliance on ornamental motifs in tracing the evolution of Dravidian architecture, an approach that has remained the basis of much Indian art history for a group of French scholars, notably Phillippe Stern and his followers.[56] Jouveau-Dubreuil himself states that his exclusive reliance on what proceeds from the "chisel of the sculptor" and disregard of what relates to the art of the engineer is inconceivable in other forms of architecture, the Gothic for example, whose history is the history of a search for solutions of a mechanical order,[57] but is nevertheless appropriate for Dravidian temples because they are, in his own words, nothing but "amoncellements de pierre où l'art de l'ingénieur est à peu près nul."[58]

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55 *Ibid.*, p. 173 ff.

56 Stern applied this method to Cambodia in *Le bayon d'Angkor et l'évolution de l'art khmer,* Paris 1927, and to Indian sculpture in his studies of the Begram ivories and Amaravati sculpture, rf. Stern, "Les ivoires de Begrām et l'art indien," *Nouvelles recherches archéologiques à Begrām,* Paris 1954, and Stern and M. Benisti, *Evolution de style indien d'Amaravati,* Paris, 1961. O. Viennot has used it in an attempt to determine the chronology of Indian temple doorframes by reference to the river goddess motifs depicted on them. See O. Viennot, *Les divinités fluviales Gaṅgā et Yamunā,* Paris 1964.

57 Jouveau-Dubreuil, *Archéologie du sud de l'Inde,* Vol. I, p. 168.

58 *Ibid.*

To my mind, this is largely true as far as it goes. At the same time, however, he defines too narrowly what constitutes sculpture, disregarding qualities of inner form in his exclusive concern for surface motifs.[59] Carried to its logical extreme, there would be, from his methods, no way of distinguishing an ancient building from a modern copy. In a restricted sense, the reliance on the evolution of ornamental motifs may have some appropriateness in considerations of architecture but is fraught with grave consequences when applied to sculpture. We would criticize more severely the second volume of Jouveau-Dubreuil's work where he attempts to date sculptures, for example, by the manner in which a particular deity held an attribute, or the shape of his crown or jewellery; but to go further into these considerations is moving beyond the scope of this paper.

What is even more astonishing, but a natural consequence of his particular point of view, is Jouveau-Dubreuil's assertion that his work was independent of aesthetic consideration for the appreciation of beauty is a matter of taste and "nous n'avons pas la prétention de faire de la critique d'art." Architecture and iconography, according to him, could be interesting whatever opinion one has of the aesthetic sense of the Hindus.[60] To accept this view is to confine oneself to the "anatomy and palaeontology" of a work of art, excluding from our considerations its inner life and spirit which alone gives a work of art its reason for being. It is therefore hardly surprising to notice not only Jouveau-Dubreuil's lack of perception for the deeper meaning of the monuments he studies so admirably, but also his failure to evoke their visual impact, which Fergusson, for example, was often able to achieve.

While Jouveau-Dubreuil was carrying on his analytical and systematic studies, D.R. Bhandarkar was continuing the official tradition of architectural archaeology as established by Burgess, providing clear descriptive records of temples in Western India and Rajasthan, often marked by keen observation. For the most part his work appeared in the form of extended notes in the *Annual Reports of the Archaeological Survey of India, Western Circle,* their value not fully realised because of the absence of illustrations. His

[59] Jouveau-Dubreuil's concept of style is what is now considered the archaeological concept, concerned with motifs and patterns in the manner of an archaeologist studying his artifacts, and not in the manner of an art historian for whom it would be a "system of forms with quality and meaningful expression," and to that extent making for a surer and more profound understanding of the object. See Meyer Schapiro, "Style," *Anthropology Today,* Chicago 1953, p. 287.

[60] Jouveau-Dubreuil, *Archéologie de sud de l'Inde,* p. 2.

explorations in Rajasthan are of great importance, the illustrated articles on the temples at Ranakpur and Osia giving us some idea of the nature of his work.[61] Longhurst, whose ideas on the origin of temples have been previously touched upon, was equally vigorous in South India where he surveyed a large number of temples. He also came under the influence of Jouveau-Dubreuil, declaring him to be the first epigraphist in India to realize the importance of studying the architecture of a monument as well as its inscriptions, and he objected strenuously to Hultzsch's views to the contrary.[62] By and large, Longhurst's work on Pallava architecture shows a clear debt to Jouveau-Dubreuil's methods and amounts to an enlargement of his predecessor's contribution.[63]

The work of the archaeological departments, some of them established as early as 1890 by the various Indian states such as Mysore, Travancore, Hyderabad, Gwalior, Baroda, Jaipur, and Kashmir also immensely increased the corpus of temple architecture. Especial mention may be made of the exhaustive records and publications of Mysore State and the fine work of M.B. Garde in Gwalior, Hirananda Sastri in Baroda and R.C. Kak in Kashmir.[64]

Hopefully we have been able to show by this survey how the foundations of historical studies of Indian architecture were laid by Fergusson, and how his lead was followed by Burgess and other workers of the Archaeological Survey of India. That Fergusson's prestige was enormous is evident as late as 1913 when Sir George Birdwood thought his work to be "past all gainsaying", such attitudes resulting perhaps in the entrenchment of Fergusson's approach and methods as official doctrine with all the rigidity and aversion to development and change that this implies. We have attempted to indicate also, however, that although Fergusson's work was extraordinary and admirable it was not without its drawbacks, and certainly not free of many of the standard prejudices of the times. One of these of course was the superiority of Greece and Europe to India, and its corollary, the as-

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61 D.R. Bhandarkar, "Chaumukh temple at Ranakpur," *ASIAR*, 1907-8 and "Temples of Osia," *ibid.*, 1908-9, pp. 100-115.

62 *ARASI, SC,* 1918-19, p. 20.

63 A.H. Longhurst, *Pallava Architecture,* Pts. I, II, III, Calcutta 1924-30 (*MASI,* Nos. 17, 33 and 40).

64 The annual reports of the departments of archaeology of the various princely states now merged in India are mines of information, though their publication was often irregular. A notable monograph is R.C. Kak, *Ancient Monuments of Kashmir,* London 1933.

signment of foreign origins to anything that had the appearance of being worthwhile in India. The proud Raja Rajendralala Mitra, provoked by this and the violent criticism directed towards him by Fergusson (which later took an ugly and racist turn), vigorously attacked these ideas, such as the Greek origin of stone architecture in India, and several others, always arguing with eloquence, but seldom with skill. He also went beyond Fergusson's vision by attempting to analyse Indian literature for the information it could yield on architecture, and endeavored to follow up the work of Ram Raz that had been disregarded for almost forty years by searching out several manuscripts notably copies of the *Mayaśilpa,* the *Viśvakarmāprakāśa* and the notable *Aparājitapṛcchā.* Unfortunately, unlike Ram Raz, he was able to find neither architects nor *paṇḍitas* who could help him and was frustrated in his attempts to understand them.[65] Nor did his work on Orissan temples, though full of all kinds of interesting information, advance our knowledge of architecture for he was, as he himself admits, "not sufficiently grounded as an architect or archaeologist",[66] but was primarily an authority on language and literature.

The most vigorous and frontal attack to be unleashed on Fergusson and Burgess was by E.B. Havell in his two works on Indian architecture published in 1913 and 1915. He was the Principal of the Calcutta School of Art, an Englishman of artistic sensibility, and sensitive enough to be deeply offended by the insulting tone affected towards Indians and their achievements by many scholars. The thrust of Havell's criticism was that instead of approaching Indian architecture from the Indian point of view, Fergusson "only read into Indian architecture the values he attached to it from his knowledge of Western architecture" and consequently came up with little more than a classification of buildings according to "arbitrary academic ideas of style."[67] More specifically Havell rejected the sectarian division of styles, the persistent habit, as he called it, of ever looking for foreign influence, and the total failure to read the symbolism and the inner meaning of the temple. Fergusson himself, he reluctantly agreed, showed genius in noticing that Indian architecture, both in its history and current

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65 Rajendralala Mitra, *Antiquities of Orissa,* Vol. I, Calcutta 1875, p. 26.

66 *Ibid.,* Vol. II, Calcutta 1880, p. 9, fn. 11.

67 E.B. Havell, *Indian Architecture,* London 1913, p. v. Havell's writings, and the renewed concern with Indian architecture at this time, were intimately related to the concurrent public debate regarding the style that would be adopted in the building of the new capital at Delhi.

practice, was a true style based on right principles, but this insight was ignored by his followers who continued to develop instead all his fallacies so that the history of architecture made no progress and stood right where Fergusson had left it. Indeed Fergusson's work had become so exalted officially that any officer of the Government who opposed it did so at his own risk; and what is worse, this attitude had the disastrous "effect of preventing the collection and publication of much material which would demonstrate the fallacies of his themes."[68]

The validity of Havell's basic contention, and the value of his attempt to break Fergusson's grip on architectural studies, particularly his emphasis upon inner meaning which might be understood through symbolism, has to be recognized. But unfortunately his writings lacked the scholarly discipline and intellectual rigour that would have made them effective. True his work had flashes of insight, notably his perception of the continuity of Indian tradition in Islamic architecture, but it was nevertheless more an emotional than an intellectual approach, several of his ideas so curious and fanciful that they only served to detract from the more significant value of his work. Not that the immediate impact of his writings was negligible, for his vigorous polemic did raise once again the possibility of fresh interpretations and understandings, encouraged scholars with fresh ideas, so that in his own way he did contribute considerably in his declared aim of turning the study of Indian architecture "off the side track in which Fergusson left it."[69]

One of the more promising ways to study Indian temple architecture from the Indian point of view would be to have recourse to the *śilpa* texts and the practicing *śilpis* for the light that these may throw on the art. And this is precisely what Fergusson and his followers had been unable to do. As we have noticed, Cousens had made a tentative attempt in Gujarat in 1903 but with little result. He was followed by Manomohan Ganguli who was quick to realize the value of using Indian architectural terms for these "invariably connote more or less than their English equivalents do" and also because for some architectural features there were no English equivalents at all.[70] He picked these up from the traditional *śilpis* of Orissa and used them freely in his work, and taking advantage of his training as an engineer was able to throw much light on the proportion, structure, and

68 E.B. Havell, *Ancient and Medieval Architecture of India*, London 1915, p. viii.

69 Havell, *Indian Architecture*, p. v.

70 Manomohan Ganguli, *Orissa and her Remains*, Calcutta 1912.

building techniques of Orissan architecture. A certain restiveness with the views of Fergusson whom he challenges on several matters, particularly the part played by Greece in the introduction of stone architecture is also evident. Jouveau-Dubreuil, writing contemporaneously with Havell in 1914, as seen above, exploited much more successfully than Ganguli the knowledge gained from South Indian *śilpis* for his stylistic analysis of architecture in Tamil Nadu. In 1932 Nirmal Kumar Bose[71] took the *Bhubanapradīpa,* a vernacular text of the Orissan tradition and again interpreted it successfully and exhaustively with the aid of local *śilpis,* demonstrating clearly the manner in which use could be made of living architectural traditions in understanding *śilpa* texts. Reference must also be made to two very important works published in the 1930s, both clearly written and both making use of traditional knowledge, namely Jagannath Ambaram's *Bṛhadśilpaśāstra* and Narmadashankar M. Sompura's *Śilparatnākara.* It is quite unfortunate, and a sad commentary on the attention paid to writers in the Indian languages, that these books were disregarded by the very persons to whom they would have been of the greatest use. In the meanwhile a number of important texts bearing on architecture were being brought to light and published. Among the most important were *Īśānaśivagurudeva-paddhati* (Trivandrum 1920-24), *Śilparatna* (Trivandrum 1922), *Samarāṅgaṇasūtradhāra* (Baroda 1925) and *Mānasollāsa* (Mysore 1926) but by and large what was presented was the bare text with little effort being made to provide even the slightest clues as to their meaning. The texts, however, were better than nothing. It is perhaps even more unfortunate that although P.K. Acharya[72] Professor of Sanskrit at Allahabad University, devoted the labour of a whole life time to the study of architectural texts, particularly the *Mānasāra,* first tackled by Ram Raz, and though he brought together a vast amount of material, it was largely love's labour lost, the numerous inaccuracies often being a hindrance rather than a help to scholars who sought to rely on him. He advanced our knowledge but little and in a large part his failure was due to his inability to make use of the

[71] N.K. Bose, *Canons of Orissan Architecture,* Calcutta 1932.

[72] Acharya began work on the *Mānasāra* as early as 1914, his first publication on the subject, *A Summary of the Mānasāra,* appearing in 1918. *Indian Architecture according to the Mānasāra-śilpaśāstra* and *A Dictionary of Hindu Architecture* appeared in 1927 and an edition of the *Mānasāra* was published in 1934. The last work to appear was *An Encyclopedia of Hindu Architecture,* 1946, an enlarged and revised edition of the *Dictionary.*

methods evolved by Ram Raz, Manomohan Ganguli, and later by N.K. Bose. It is interesting to note that the work of scholars working with the texts, or with the *śilpis,* or with both, did not attempt to probe, with the possible exception of Manomohan Ganguli, the inner meaning and significance of what they had discovered. It was sufficient if the bare meaning of a term or a chapter was established, and as it were, this was difficult enough. N.K. Bose, for example, very explicitly and deliberately confined himself to the "scientific study of the outer forms alone," and not their meanings and justified this by affirming that the results of such an investigation were "not capable of scientific verification," whatever that may mean.[73]

Many of the shortcomings of the scholarship of Indian temple architecture such as the failure to explore Indian sources and the inner meaning of the monuments, the purely literary studies of *śilpa* texts without reference to the surviving monuments or its living practitioners, the study of style conceived only in terms of the development of ornamental motifs and without reference to the history of inner form, or the study of its symbolism without a grounding in architectural or religious history were all largely overcome in the work of Ananda Coomaraswamy (1877-1947) who was responsible for reestablishing the study of Indian art on a new basis. Here we will only state briefly his contribution to the study of Indian architecture. His first major publication, besides the remarks in the *History of Indian and Indonesian Art* (1927) and scattered reflections in earlier writings, was an article on Indian architectural terms written in 1928 as a further contribution to Acharya's publications.[74] Here he interprets in a masterly way a sundry collection of terms bringing into play his knowledge of the actual architecture, the *śilpi* tradition, and a thorough acquaintance with the literature, at the same time making use of the early, non-technical meaning of the terms in order to explain fully their significance when they are used later in a technical manner. He was thus able to give an added dimension to the significance of the vocabulary, anticipating its interpretation at a deeper level of reference where its meaning provides clues to the inner reality which it symbolically designates. In *Yakṣas* (1928-1929),[75] where valuable light is thrown on early Yakṣa shrines and their relationship to

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[73] N.K. Bose, *Canons of Orissan Architecture,* p. 4.

[74] Ananda Coomaraswamy, "Indian Architectural Terms," *JAOS* XLVIII (1928), pp. 250-275. The works of Acharya that occasioned its publication were *Indian Art according to the Mānasāra* and *Dictionary of Indian Architecture,* 1927.

[75] A. Coomaraswamy, *Yakṣas,* 2 vols. Washington, 1928-1931.

later architecture, Coomaraswamy also brilliantly and convincingly established the origins and significance of the various symbols used in architectural decoration on the basis of a methodology that successfully interprets the evidence of living tradition and the surviving monuments or their representations in relief sculpture, and a thorough mastery of technical, religious, and literary texts and tradition. The enormous amount of painstaking work and thorough understanding of the more profound aspects of the subject combined with a deep and sensitive feeling for the material is unparalleled in studies of Indian art and architecture. In two subsequent articles on early architecture,[76] he recreates with great thoroughness, again on the basis of representations in sculpture and references in literary and religious texts, the architecture of ancient Indian cities with their tree-temples, houses and palaces, windows, arches and other features, pointing out their relevance for the understanding of the forms of later architecture. In the process he established beyond doubt the origins of the north Indian *śikhara* and the *jāla* patterns so characteristic a feature of their decoration.

The next phase of Coomaraswamy's thoughts on architecture, and for that matter other forms of art, is exemplified in an article of singular perception on the symbolism of the dome.[77] Having brought the material facts and minutiae under firm control, he proceeded to probe the inner meaning of the form itself. The origins of a structural form, he theorised, could be studied either from a technical or from a logical point of view, either as fulfilling a function or expressing a meaning, the function and significance coinciding in the form of traditional architecture. He rejected the view that symbolic meanings are "read into" the "facts" which "must" originally have had no meaning but only a physical efficiency as the reading of the modern mentality into that of the primitive artificer. He interpreted the Hindu temple, for example, not only as a building providing shelter for the image and the worshipper, but also as the image of the cosmos, the house of God and also His body, representing in its parts the drama of disintegration and reintegration which is the essential theme of the Indian myth and its ritual enactment in the sacrifice. The study of the temple was thus carried beyond its investigation in place and time to its inner meaning to its very reason for being, without which, he felt, the study of the archi-

[76] A. Coomaraswamy, "I Early Indian Architecture: Cities and City-gates," *Eastern Art* II (1930), pp. 209-235 and "II Bodhigharas, III Palaces," *ibid.* III (1931), pp. 181-217.

[77] A. Coomaraswamy, "Symbolism of the Dome," *IHQ*, XIV (1938), pp. 1-56.

tecture was wholly incomplete. Coomaraswamy's conclusions gain validity by being rooted in a hard-headed empirical study of the facts; his is not an interpretation based on intuitive perception alone but backed up by a thorough critical method and in this respect capable of that "scientific verification" of which N.K. Bose despaired.

Coomaraswamy was expressing with reference to India a scholarly approach that represented a new orientation in art historical research which emphasised an enquiry into the values "actually attached to the art by those for whom it was made" and attempted to solve problems by exegetical analysis. Other outstanding proponents of this point of view are W. Andrae and particularly P. Mus who developed and applied brilliantly to the art of India and south-east Asia the method he called "archéologie religieuse comparée."[78] Coomaraswamy was reacting against that concept of the history of art which held it to be primarily concerned with the problem of unravelling influences (most aggressively evident in Indian art historical writing) and devoted exclusively to the study of the development of form and its attribution to a particular artist, period or place. As one who had spared no pains in "the performance of the mechanical tasks that are the prerequisite to scholarship," his views deserve careful attention. Coomaraswamy's work thus gave a new and exciting dimension to the study of Indian architecture, one which went far beyond that of Fergusson and his followers and which was only vaguely and sentimentally felt by Havell.

It is important to realise, however, and it has often been missed, that Coomaraswamy was not downgrading the history of art in the more conventional sense of the subject, but was stating that the knowledge of style and its evolution so gained had to form the basis for further enquiry which alone would raise the study beyond an intellectual exercise congealed in fact, to a level where we get "a sense of the living forces operating within

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78 See P. Mus, "Barabaḍur : Les origines du stūpa et la transmigration, essai d'archéologie religieuse comparée," *BEFEO* XXXII (1932), pp. 269-439, XXXIII (1933), pp. 577-980; and XXXIV (1934), pp. 175-400. This appeared later with a long introduction as *Barabaḍur, esquisse d'une histoire du bouddhisme fondée sur la critique archéologiques des textes,* Hanoi 1935. His main conclusions assert the stupa as being not just a monument but an icon made in imitation of the cosmic body of the transcendent Buddha. It is the vertical axis also which is to Mus the principle of the stupa's whole design and identifiable with the axis of the universe, ideas which are also true of the Indian temple.

the material" thus making the study of art a truly humane discipline.[79] I am taking some pains to stress this aspect of Coomaraswamy's work as he has often been unjustly criticised for what are vaguely called his "mystical" views. As a matter of fact, not only are his studies deeply rooted in historical method but constantly strive to transcend its limitations.

Coomaraswamy's work was enlarged considerably by Stella Kramrisch in a series of articles appearing in the *Journal of the Indian Society of Oriental Art* and culminated in her two weighty volumes which remain the authoritative work on the meaning and symbolism of the Indian temple.[80] A deep study of the religious and literary texts and an unprecedented understanding of the *śilpa-śāstras* comes to life under her sensitive scholarship, and she was able to state the significance of the temple in a thorough and comprehensive manner.

It would be in no way detracting from the uniqueness and brilliance of Kramrisch's achievement to point out that it was partly made possible by the continuing discovery and publication of the various *śilpa* texts. In addition to those already mentioned earlier, many others were discovered and became available for study though their publication was often delayed. These included the *Vāstuvidyā,* the *Aparājitapṛcchā,* the *Viśvakarmā Vāstuśāstra,* the *Pramāṇamañjarī* and others.[81] Special mention may be made of the fine study of the *Tantrasamuccaya* by N.V. Mallayya[82] in which the text is skillfully interpreted both in its technical and symbolic aspects, and many previous errors and misconceptions cleared up. In most other cases, however, the editors continued to be as uncertain about the meaning of the texts as their predecessors, neither making use of the monuments, nor the knowledge of the living *śilpa* tradition, as attempted by Ram Raz and N.K. Bose. Nevertheless, these publications did provoke a certain amount of lively discussion among scholars regarding certain topics treated therein,

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79 A. Coomaraswamy, "Review of Die Ionische Säule, Bauform oder Symbol? by W. Andrae," *Art Bulletin* XVII (1935), p. 107.

80 Stella Kramrisch, *The Hindu Temple,* 2 vols., Calcutta 1946.

81 *Vāstuvidyā,* Trivandrum Sanskrit Series, 1940; *Aparājitapṛcchā of Bhuvanadeva,* P.A. Mankad (editor), Baroda 1950; *Viśvakarmā Vāstuśāstram,* K. Vasudeva Sastri (editor), Tanjore 1958; *Pramāṇamañjarī,* Priyabala Shah (editor), Baroda 1958.

82 N.V. Mallayya, "Studies in Sanskrit Texts on Temple Architecture with Special, Reference to the Tantrasamuccaya," *Journal of the Annamalai University* IX (1939-40), pp. 25-49 and 113-126; X (1940-41), pp. 13-68, 105-200, and 341-356; XI (1941-42), pp. 25-66; XII (1942-43), pp. 1-12. The work was later published in book form, *Studies in Sanskrit Texts on Temple Architecture,* Annamalai 1949.

notably the classification of temples with respect to Nāgara, Drāviḍa and Vesara types.[83] A more significant advance in the understanding of the *śilpa* texts was achieved, however, in 1960 with the publication of the *Dīpārṇava* with a Gujarati translation and commentary entitled *Śilpa-prabhā* by Prabhashankar O. Sompura.[84] Work of this type had been previously attempted by Jagannath Ambaram, Narmadashankar Sompura, and Bhagwandas Jain[85] but none possessed the degree of accuracy and thoroughness of Sompura's work where for the first time the meaning of the text was clearly interpreted and obscure architectural terms correctly defined with the help of extensive notes, drawings, and photographs. This important elucidation of the materials was possible because Prabhashankar Sompura was not only an eminent practicing architect of the ancient traditions, responsible for building numerous temples culminating with the great temple at Somnath; but was also a scholar of the *śilpa-śāstra* in the traditional sense, a keen student of the medieval temples themselves, and later became receptive to the problems of current scholarship. He was born in the Sompurā caste who had practiced their art in Gujarat and Mewar from ancient times, and counted among their members famous architects like the great Maṇḍana who served under Mahārāṇā Kumbhā (*c.* A.D. 1430-1439) and also wrote several works on architecture and art. Narrowly escaping an English education, he devoted himself to the vocation of his forefathers and at the same time tried to deepen his understanding of the principles of his craft and the *śilpa* texts available to him with whatever help could be acquired both from the senior members of the profession and ancestral papers and documents. Motivated by a desire to be of help to his compatriots whose learning and abilities were fast on the decline, he decided to translate and interpret the traditional texts in his possession into

[83] Among the more important contributions on this vexed subject see R.P. Chanda, "Beginning of the *śikhara* of the Nāgara (Indo-Aryan) temple," *Rupam* No. 17, 1924; A. Coomaraswamy, *History of Indian and Indonesian Art,* New York 1927, pp. 106-107; F.H. Gravely and T.N. Ramachandran, "The Three Main Styles of Temple Architecture," *Bulletin of the Madras Government Museum,* Section III, Part I (1934); K.R. Pisharoti, "Nāgara, Drāviḍa, Vesara," *Indian Culture* VI (1939-40), pp. 23-38 and *ibid.* VII (1940-41), pp. 73-82; N.V. Mallayya, "Nāgara, Drāviḍa, Vesara," *JISOA* IX (1941), pp. 81-95; and Kramrisch, *The Hindu Temple,* Vol. I, pp. 286-295.

[84] Prabhashankar Oghadbhai Sompura, *Dīpārṇava,* Palitana 1960.

[85] Jagannath Ambaram, *Bṛhad-śilpaśāstra,* Ahmedabad 1939; Narmadashankar Sompura, *Śilpa-rātnākara;* Bhagwandas Jain, *Vāstusāraprakaraṇa* of Ṭhakkura Pheru, Kota 1939.

Gujarati. His first attempt was the *Prāsāda-maṇḍana* followed by several others, all diligently researched in order to make them comprehensible. He faced particular difficulties when working with those portions of the texts which concerned themselves with types of temples that were no longer built, but he was able to solve most of these by studying the ancient temples that seemed to be relevant, and in the process augmenting his own practical knowledge which he was able to apply successfully when called upon to build once again the new temple at Somnath.

Though the work done by Sompura began around 1916 and has continued to the present day, it has remained primarily in manuscript form, its publication long delayed due to the author's reservations about his literary skills.[86] The *Dīpārṇava* was published only after much encouragement from Krishna Deva and V.S. Agrawala, and was followed by the appearance of other works[87] which augment our knowledge and provide us with additional reliable tools for the interpretation of the texts. A clear and precise terminology for north Indian architecture, particularly the schools of western India, is well on the way to formulation and will aid immeasurably in the development of future studies.

Beside that of the Sompuras of western India, there are living architectural traditions in other parts of India, though their existence is in a most precarious condition. They still possess texts and the intellectual and practical knowledge necessary for their understanding, and one of the immediate tasks is the collection and preservation of this knowledge before it is gone beyond recall. Preliminary studies reveal that in keeping with the various regional idioms of temple architecture, there were also distinct and appropriate local textual traditions. Attention to the Orissan traditions had been earlier drawn by Manomohan Ganguli and N.K. Bose, but the finest study to appear until now is the *Śilpa-prakāśa* of Rāmacandra Kaulācāra, annotated and translated into English by Alice Boner and Sadāśiva Rath Śarmā.[88] It is a text of the high tradition, written in Sanskrit, and of about the eleventh or twelfth century, relying heavily on an older text known as the *Saudhikāgama*. Its author was a professional architect and instead of being a general work, it concentrates on one type of temple and its construction. By relating the text to the Varahi temple at Chaurasi the authors have

[86] These details are based on a short autobiographical note in the author's preface to *Dīpārṇava*, pp. 59-62.

[87] Prabhashankar O. Sompura, *Prāsāda-mañjarī*, Palitana 1965 and *Ksirārṇava*, Palitana 1967; other studies are in the course of publication.

[88] Published in Leiden, 1966.

been able to interpret it very successfully throwing a flood of light on various aspects of Orissan architecture. The copious illustrations and an illustrated glossary of technical terms make this a model work well worth emulating. The appearance of these publications by Prabhashankar Sompura and Alice Boner have strongly influenced our understanding of temple architecture and are hopefully the forerunners of a series of works from other regional Indian traditions. The most fruitful cooperation between modern scholarship and traditional learning and practice is now taking place and one can only regret deeply that this is occurring at such a late date when the ancient tradition is on the verge of extinction, and not a hundred years ago when, as Fergusson himself testifies, indigenous architecture was still in a fairly flourishing condition. I cannot help but reflect ruefully that when Fergusson was developing his theories of architecture from lessons learnt watching the traditional architects at work at Satrunjaya,[89] it may well have been the work of Ramji Ladharam, Prabhashankar Sompura's great grandfather that was being observed, for he was actually then at work there, building the splendid *tunk* of Motī Shāh. A great opportunity missed!

Aside from the publication of architectural texts and attempts to make them yield their meaning, the survey and recording of temples, which by the very nature of the task fell mainly on the officers of the Archaeological Survey of India, was continued, though to judge from the publications, with lessening intensity. Already under John Marshall the Survey's attention was shifting to other than the purely architectural considerations of his predecessor Burgess. R.D. Banerji did some work on Gupta architecture and also published a monograph on Kalacuri temples,[90] the temples of Khiching formed the subject of a short memoir by R.P. Chanda,[91] and the various excavations notably those at Sanchi and Taxila shed some light on

[89] Palitana, by which Fergusson meant Satrunjaya, was to him "one of the most interesting places that can be named for the philosophical student of architectural art, in as much as he can there see the various processes by which cathedrals were produced in the Middle Ages, carried on a larger scale than almost anywhere else, and in a more natural manner. It is by watching the methods still followed in designing buildings in that remote locality that we become aware how it is that the uncultivated Hindu can rise in architecture to a degree of originality and perfection which has not been attained in Europe since the Middle Ages, but which might easily be recovered by following the same processes." Fergusson, *History of Indian and Eastern Architecture*, p. 228.

[90] R.D. Banerji, *The Śiva Temple at Bhumra*, 1924 (*MASI* No. 16) and *The Haihayas of Tripuri and their Monuments*, 1931 (*MASI* No. 23)

[91] R.P. Chanda, *Explorations in Orissa*, 1930 (*MASI* No. 44).

early temples;[92] but there is hardly that preoccupation with architectural problems we had noticed earlier.

Along with the study of texts and the symbolical investigations of Kramrisch, S.K. Saraswati, starting in the 1940's had done important work on a historical and stylistic basis beginning with an analysis of Gupta architecture, and continuing with several comprehensive essays on Indian temples.[93] H.D. Sankalia, in an interesting article published in 1941,[94] was concerned primarily with methodological questions, and leaning on Jouveau-Dubreuil whose work he admired, attempted to develop a more comprehensive classification. He based this on region as well as dynasty, admitting at the same time that dynastic knowledge being often incomplete, it was the regional classification that was likely to prevail. He had already attempted to pursue these lines of enquiry in his *Archaeology of Gujarat* which included a critical study of the temples of that area.[95] A.V. Naik's review of the temples of the Deccan applies the methods developed by Sankalia to another region.[96] K.R. Srinivasan published a few important articles on south Indian temples[97] and S.R. Balasubrahmanyam began to carefully record the temples and their inscriptions in territories under Coḷa suzerainity.[98] The first volume of Percy Brown's *Indian Architecture* is mainly a compilation from previous works but with its numerous photographs and drawings is a useful introduction to the subject.[99]

The interest of the Archaeological Survey of India shifted rather dramatically to the investigation of pre- and proto-historic sites in the period after World War II, but an attempt to correct the imbalance was made

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92 See for example, Sir John Marshall and A. Foucher, *Monuments of Sanchi,* London 1940, pp. 52-59 and 72 ff; and *Taxila,* Cambridge 1951, pp. 222-229.

93 S.K. Saraswati, "Temple Architecture of the Gupta Age," *JISOA* VIII (1940), pp. 146-158. Also his lengthy contributions on architecture of the Gupta and Medieval periods in R.C. Majumdar and A.D. Pusalkar (editors), *History and Culture of the Indian People,* Vol. III, 1954, pp. 466-515 and Vol. V, pp. 530-640.

94 H.D. Sankalia, "Regional and Dynastic Study of South Indian Monuments," *Annals of the Bhandarkar Oriental Research Institute* XXI (1941), pp. 213-228.

95 H.D. Sankalia, *Archaeology of Gujarat,* Bombay 1941, pp. 46-115.

96 A.V. Naik, "Structural Architecture of the Deccan," *New Indian Antiquary* IX (1947), pp. 187-329.

97 K.R. Srinivasan, "The Last of the Great Coḷa Temples," *JISOA* XVI (1948), pp. 12-33.

98 His work, beginning in the 1930's, is brought together in Part One of *Early Chola Art,* Bombay 1966. Other parts are in the process of being published.

99 Percy Brown, *Indian Architecture, Buddhist and Hindu,* Bombay 1942.

in October 1955 with the establishment within the Survey of the Architectural Survey of Temples with Krishna Deva and K.R. Srinivasan in charge of north and south India respectively. Their labours, tantalizing glimpses of which are becoming available,[100] promise rich rewards for students of Indian architecture. The preliminary work, itself of the greatest importance, was the "compiling of a standard list of technical architectural terms on the basis of the ancient texts on architecture, inscriptions, and the living traditional *sthapatis* and *śilpis*;"[101] and the standardized and increasingly widespread use of these terms gives recent writing a clarity and precision hitherto unknown. The consequent focusing of attention on the distinct architectural components so named has begun to provide a basis and direction to stylistic analysis and to yield valuable clues for understanding structural origin and symbolic meaning. The obvious advantages of a proper terminology are now apparent, and in hindsight it is equally obvious what a grave disadvantage it was not to have had it earlier. The technical vocabulary of the monuments is now fairly clear, which is like saying that the basic grammar has been set out; and this is certain to have an enormous impact on our comprehension of Indian architecture. That a regional unit has often coincided with a dynastic one may partially account for the persistent survival of dynastic nomenclature and even justify it to a limited extent, but there is now visible a shift from classification based on dynasty to one based on region;[102] and this too would appear to be a desirable development for it is becoming abundantly clear that the style of the Indian temple is determined by conditions of time and space and not by dynastic patronage, that the traditions of a region continue and are not affected by the constantly fluctuating territories of the various dynasties, if at all we can ever be certain of the exact extent of these fluctuations. Old habits may die hard, but I personally believe that the retention of

100 K.R. Srinivasan, "Pallava Architecture of South India," *Ancient India*, No. 14 (1958), pp. 114-138 and *Cave Temples of the Pallavas*, New Delhi 1964; Krishna Deva, "The Temples of Khajuraho," *Ancient India*, No. 15 (1959), pp. 43-65; "Presidential Address, Fine Arts and Technical Sciences Section," *All-India Oriental Conference*, Srinagar, 1961; and "Extension of Gupta Art : Art and Archaeology of the Pratihāra Age," *Seminar on Indian Art History*, New Delhi 1962, pp. 85-106.

101 *Indian Archaeology* 1955-56—*A Review*, p. 58. The publication of Prabhashankar Sompura's *Dīpārṇava* is closely connected with this effort.

102 See the remarks of A. Ghosh on the subject in *Seminar on Indian Art History*, New Delhi 1962, pp. 9-13; and M.A. Dhaky, "Some Early Jaina Temples in Western India," *Shri Mahavira Jaina Vidyalaya Golden Jubilee Volume*, Part I, p. 307 for a most enthusiastic endorsement.

dynastic appellations carries with it the potentiality of false starts and errors and is best altogether avoided; it makes for obscurity rather than clarity for the simple basic reason that it is the region that is the basis of Indian history as well as art, and this most clearly in pre-Islamic India with the possible exception of the third century B.C. when there is the rather exceptional situation of the Maurya dynasty with its own royal atelier erecting monuments throughout India. It is not the dynasty that gives the region its character even though it may happen to hold sway over it or even belong to it. To think otherwise would be in fact to condemn ourselves to a constant wild goose chase, ever following the wrong lead, and never sure of the ground under our feet.

The work of M.A. Dhaky has to be placed along with the important work of Krishna Deva with whom he was closely associated during the latter's work in Gujarat in 1960. The result of Dhaky's researches and explorations in the 1950's were published in a monograph on the Solaṅkī temples of Gujarat, aptly characterised as the first of its kind.[103] It remains the definitive work on the subject, displaying a thorough knowledge of the monuments, an easy acquaintance with the texts, fine powers of analysis and stylistic perception. Reviewing and criticizing earlier work, Dhaky establishes securely the chronological sequence of Gujarat temples. Dhaky played an important part in the study of architectural texts to whose interpretation and critical assessment he brought an intimate acquaintance with the monuments, actively cooperating with Prabhashankar Sompura in bringing his work to light as well. In 1963 Dhaky published a monograph on the ceilings of Gujarat temples.[104] It again displays a felicitous use of traditional architectural texts for the classification and also the detailed elucidation of some of the finest examples of the architect's craft. It is one of the few typological studies of Indian architecture, a kind of work for which there is much more room. Gradually, Dhaky also has been abandoning dynastic nomenclature, using it as a "convenient denomination"[105] in his monograph on Solaṅkī temples, and suggesting with considerable acumen, a regional classification instead by noting the stylistic distinctions between the temples of Roda and Osia. This line of thought was

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[103] M.A. Dhaky, "Chronology of the Solanki Temples of Gujarat," *Journal of the Madhya Pradesh Itihasa Parishad*, No. 3 (1961), pp. 1-83.

[104] M.A. Dhaky and J.M. Nanavati, "Ceilings in the Temples of Gujarat," *Bulletin of the Baroda Museum and Picture Gallery* XVI-XVII (1963), pp. 1-117.

[105] Dhaky, "Chronology of the Solanki Temples," p. 2.

further developed in an article on a temple at Varman[106] and more clearly formulated in two articles published in 1967 and 1968.[107] In these he divides the temples of Gujarat and Rajasthan into four categories, and, consciously avoiding dynastic appellations, names them the Surāṣtra, the Mahā-Gurjara, the Mahā-Māru, and the Māru-Gurjara styles interpreting the architecture of the region in terms of the development and interaction of these four styles. His paper in the present volume develops this theme in some detail, and sets out a basic methodology of far reaching significance for the furtherance of our study, even if one were to differ from him in the details. The Surāṣtra style has been dealt with by him in an earlier monograph on the "Maitraka and Saindhava" styles, a work unduly delayed in the press (probably accounting for its dynastic title) and published in 1969.[108]

In the brief sketch above I have tried to give some idea of where we stand and how and why we are there. I have attempted to trace the development of the main trends of thought, omitting perforce the work of a large number of scholars who have also contributed to its advancement in manifold ways. Progress seems to me to have been rather slow for a variety of reasons only touched upon in this essay. It is clear, moreover, that the promise of the brilliant beginnings have not been fulfilled if we remember that Fergusson's work in the mid-nineteenth century, considering the comparative meagre nature of the resources then available, placed the study of Indian architecture on a par with that of European architecture at that time. The failure to pursue for some time the evidence of the architectural texts and the living tradition, both so intimately linked, an advantage enjoyed by us over historians of Western architecture, was certainly inhibiting. The inability to think of a temple in terms of those for whom it was made, the negative aspect of Fergusson's legacy, was finally overthrown by the work of Coomaraswamy who also breathed new life into architectural studies by drawing our attention to the meaning beyond outer form. And this was not the result of any assertion of nationalistic consciousness, but has to be viewed instead as a new dimension given to

106 M.A. Dhaky, "The Brahmāṇasvāmī Temple at Varman," *JOIB* XIV (1966), pp. 381-382.

107 M.A. Dhaky, "Kiradu and the Maru-Gurjara Style of Temple Architecture," *Bulletin of the American Academy of Benares* I (November, 1967), p. 35 and "Some Early Jaina Temples in Western India," pp. 307-312.

108 M.A. Dhaky and J.M. Nanavati, *Maitraka and Saindhava Temples of Gujarat*, Ascona 1969.

scholarship by a group of eminent art historians. This brings us also to note the relative isolation of art historians in our country to developments in other parts of the world. As it is, art history in Britain was itself considerably isolated from that of Europe and relatively backward until quite recently, so that following the British tradition made matters even worse. The significant and vital discourses of a rapidly developing discipline marked by the work of A. Riegl, E. Löwy, H. Focillon, H. Wölfflin, P. Frankl, P. Mus and J. Strzygowski, to name a few, have left us untouched except perhaps in a limited way through the work of Coomaraswamy and Kramrisch. This is not to say that Indian art history has to be imitative of the West in its methods. Rather, it has to develop its own philosophical basis which may be quite different from that useful for the study of Western art, and which must grow out of its own cultural conditioning and historical characteristics. Thus any aesthetic theory would have to take into account the relative freedom of Indian architecture, as noticed by Fergusson, from any conscious revivalisms as are seen to occur in the arts of the West. The point of view advanced by Frankl and others which conceives of architecture as fundamentally a method of enclosing space would also have little relevance to Indian sacred architecture in view of the nature of the Hindu temple, while the thoughts of Andrae and Mus who interpret architecture in terms of a comparative religious archaeology are surely of consequence. Analytical concepts developed by Strzygowski or Wölfflin may or may not be pertinent for the study of Indian architecture; but what needs to be emphasised is the necessity of entering into communication with their ideas as a means of sharpening our own sensibilities and developing a methodology rooted in a sound philosophical understanding of Indian art. Unless we are constantly reviewing and reflecting over our own methods, and assessing, reviewing and modifying them, something which has not been done often enough, progress is only likely to be fitful and spasmodic.

It would, nevertheless, appear that the study of Indian architecture is on the threshold of new and important achievements. The very number of monuments that have been brought to light has increased tremendously and though a great deal needs to be done in recording and publishing them, I am simply amazed, as I read the fine reports of Burgess, that he should ever have expected the work to be completed in a limited span of years. Our task seems endless, and seventy years later we are in no way near completion. The texts, which were once shunned as inexplicable, are rapidly yielding their meaning, thanks to the help of what survives of the living tradition. A careful and well reasoned discussion on the basic system of

classification is occurring, and innovative and fresh methodologies are being put into practice. Chronological elucidation, so basic to any study of art keeps on taking place, based on style, epigraphical evidence, history and other tools, though, to the historian of art, style will ever be the predominant criteria. Problems of form and style too are receiving increasing consideration, and the tendency to conceive artistic style in terms of ornamental motifs, the emphasis on shape rather than form is being steadily challenged, not only in the study of sculpture and paintings but also architecture. Each one of these modes of understanding has its relevance for the study of the work of art; whether structural, formal, symbolical, or any other, each point of view has its own part to play in the total understanding.

STELLA KRAMRISCH

THE TEMPLE AS PURUṢA

(Plates 1—6)

The temple, *prāsāda,* should be worshipped as Puruṣa. This, a late text, the *Śilparatna,* says in so many simple words. But what is the Puruṣa as which the temple should be worshipped? The notion of a sacred structure, the altar, and subsequently, the temple as Puruṣa subsists over three thousand years worded in texts, and over more than a thousand years set up as monument. It not only subsists; it forms and constitutes the very nature of the temple in many styles, in many parts of India throughout the ages.

Every form of art, every great tradition, rests on certain assumptions; if we do not wish to call them intuitive insights, or religious inspirations, or revelations, we simply call them assumptions. And this fundamental assumption of the Puruṣa shaped Indian thought and creative form from the Ṛgveda onwards. Here we are primarily interested in form, in architecture as form, as a creative process which by its own tangible, visual, means creates the equivalent of that pervading notion, the Puruṣa.

What or who is the Puruṣa? Ṛgveda 10.90 says He is the entire world. From Him was born Virāj, and from Virāj, Puruṣa. This reciprocal relation of autogenesis requires some comment. Who is Puruṣa? Puruṣa is Man, but Man is here a term of reference, the nearest at hand, if we experience, feel and think allusively in referring to something which is beyond form. For is it not the message of created Form to convey that which is beyond all forms?

Puruṣa, which is beyond form, is the impulse towards manifestation. This impulse towards manifestation is experienced within creative man in the image of Man as Supernal Man, Primordial Man, or the image of "Man as the creative impulse." This creative impulse, however, as soon as felt and conceived, is immediately productive or procreative. From Him was born Virāj. Virāj is cosmic intelligence ordering the process of manifestation; and from that cosmic ordering intelligence once more that very impulse in a self-generating way is born. The relation in its timeless, extreme logic is projected from Man, the experiencing microcosm, into his

experienced macrocosm. This is the only priority between these two, man and the cosmos. In each the relation of Puruṣa and Virāj is the same. They are there, the one presupposes the other the moment creation begins. They are the impulse and its ordering intellect, the latter as it were, latent as well as imperious within the former.

The *Agni-purāṇa,* a much earlier text than the *Śilparatna,* says that the impact, Śakti, and Form, Ākṛti, of the temple is Prakṛti. Prakṛti is Primordial Matter, that is Matter before it became matter, the principle of matter.

The principle of matter, its impact, Śakti, realized as Form, is coordinated with Virāj, the ordering Intellect. Matter itself is measured out. Whatever is material has its measure, its limit, its order. This order in the cosmos is reflected in the temple, the work of man, which to his own satisfaction he creates as he assumes the creator to have created the cosmos. The temple is Puruṣa conceived by means of Prakṛti.

The *Agni-purāṇa,* practically in the same breath, says that the door of the temple is its mouth; the *skandha,* the platform terminating the trunk of the superstructure, represents the shoulders of the Puruṣa; the *bhadra,* or projection, the arms; and thus down to the wall, the *jaṅghā,* or "leg," and to the very bottom, to the lowermost molding *(pādukā),* the feet. The names of these and other single parts of the body of man are transferred to essential parts of the structural organism of the temple in its own right. Neither their situation nor their proportions in the body of the temple are meant to be compatible with or referred back to the human body.

The *Agni-purāṇa* further says that the image in the temple, the *pratimā,* is the very *jīva,* the very life, of the temple. Such references are in the nature of images. They are not meant to be taken literally; they act as points of reference so that we may feel and see the living presence of that entity called Puruṣa.

Other texts, earlier and later ones such as the *Viṣṇusaṁhitā,* and also the *Śilparatna,* speak about the Vairāja form of the *prāsāda,* emphasizing the Puruṣa as Virāj, the order, the measure, the intellectual function within the creative act of architecture. Here, too, the brief references to the mouth, the head, or *mastaka,* the *jaṅghā,* or leg, that is, the vertical wall in its middle portion, are just external marks indicating the living presence of the Puruṣa. The living presence of the principle, the *jīva,* symbolized by the image or Liṅga as a concrete form in the sanctuary, is enlarged and translated by the architect into the very structure of the temple, its conception and form in any example, even the latest and even in those of no considerable artistic consequence, and not of Hindu denomination, such as the

Jaina temple from Chittor. Even there the very principle of the Puruṣa in thus organizing the manifesting impulse is built up in visual terms. The monument is indwelt by the presence of the Puruṣa which is manifest on the outside of the temple. Its effect relies on mass only, and mass which is piled up so that it coheres visually, dynamically, while one shape rests on the other without physical stress, without actual tension, yet on all levels it progresses in all directions while visually its thrust is upwards. In the most elaborate temples of the Nāgara style, the dynamic movement is at the same time organized in the opposite direction towards the center of the building, the innermost sanctuary, in re-entrant angles.

In principle, the *prāsāda* as Puruṣa is meant to be seen from the outside. In the interior there is but the *garbhagṛha,* the womb-chamber, a stark, simple cubical space without the rich articulation of the exterior. Its mystery lies in the realm of the female within Man, for it is the place of gestation, generation and transformation, the place of the embryo and of a new birth where Deity is made manifest by image or symbol. *Sāndhāra prāsādas,* where the *garbhagṛha* is ensconced in a double set of walls allowing for an inner ambulatory, only seemingly belie the polarity between the pristine secret of the *garbhagṛha* in its simplicity and the intricate organization of the exterior, in this case a double exterior of the walls of the *prāsāda.*

The texts on the *prāsāda* as Puruṣa do not go beyond the assigning of the names of the parts of the body of man to architecturally significant parts of the structure, which, in its entirety is set up to be seen from the outside only. The high superstructure has no interior to offer for this is not meant to be seen. It is closed off from the *garbhagṛha,* as a rule, by a flat ceiling.

However, the total conception of the *prāsāda* as Puruṣa is given form by the architect in terms of architecture. The order and coherence of the architectural themes and motives forms as closely knit an integument as is the skin of the body of man. The logic or pattern of the architectural themes and motives is enforced by more than one factor, origins of a structural or technical nature being linked by sets of rules subservient to a sense of proportion and rhythms which vary according to place and time.

Some of the ubiquitous, all-Indian motives are the curvilinear *gavākṣa,* or window, the vase, *kumbha,* the eaves of the roof, or *chādya;* others, like the *āmalaka,* the finial in whose circular shape is gathered the mass of the *śikhara,* and the *śikhara* itself, are peculiar to the Nāgara style, the major temple form throughout the realm, that is to the exclusion of South India only.

All these shapes originally were functional parts of a structure. Embodied in the temple and on its walls they retain some of their functional meaning even though not fulfilling their original function: the *gavākṣa,* for instance, being here always a solid shape, carved anywhere on the *prāsāda,* retaining its meaning only where heads of human or animal shape are carved within its curvilinear frame and look out of these windows.

The rules regulating the use of these and other motives as parts of the living, that is, architecturally alive integument of the temple wall are: (1) diminution of the original shape in proportion to the size of the monument and further proportionally graded reductions in size of the same motive on one and the same temple; (2) repetition of identical shapes either in the vertical or in the horizontal, or vertically as well as horizontally; (3) splitting of one entire motive into parts; (4) super-imposition in the third dimension of one shape upon the other; (5) inscribing one motive or theme into a different kind of theme or motive; and (6) contraction of several themes juxtaposed and or superimposed according to the above rules, into one complex new entity.

The diminution of the original shape, be it that of an entire edifice or of part of it, has its most representative monuments in South Indian architecture where the superstructure of the *vimāna* or its several storeys *(bhūmi)* is set with small temple (or house) shapes. These aedicules, which according to their shapes are called *kūṭa, koṣṭha,* etc., are aligned by the seventh century, as seen at Mahabalipuram, in a definite pattern where their square and rectangular shapes alternate, forming a garland of aedicules on each level (Pl. 1). Superimposed, their horizontal alignments offer complex three-dimensional patterns set off by light and shade intervals whose emphasis changes with the hours of the day and the seasons, offering their planes to the light of the sun. The sequential order of the aedicules together with its air spaces forms a rugged cortex as vital to the form of the superstructure of an early Drāviḍa temple as is the bark to the tree. Like bark and skin, the architectural integument too changes with time. Its age marks result from a tightening or slackening of the contour of the aedicules. Their proportionate size too changes, they become not only relatively smaller but also more flat than those of the Pallava temples of the seventh century. They lose, together with their three-dimensional completeness, their hard-edged crispness and simplicity. Never again was the phantasmagoric mountain of the houses of the celestials piled high so clearly to proclaim the *prāsāda* as mansion and body of God.

While the several, graded diminutions of the size of a given shape are

of an intellectual nature, by expressing a hierarchy or valuation in measurable form, the repetition of diminutive shapes of the same size springs from more vital sources within the creative process, stemming from a will to assert itself again and again in measurable intervals by means of a chosen shape and its meaning. The measurable, quantitative nature of rhythm stipulates direction while implying variations of intensity, like those of ebb and tide, where the one is not without the other and each anticipates the next.

The principles or rules of diminution and repetition act conjointly and almost ad infinitum as may be seen in the relatively large aedicules arrayed on the lowermost storey of the superstructure compared with those forming its highest course.

The motive of the *gavākṣa,* different from the aedicule as it is generally without cubical girth, is used in a hierarchy of sizes, from the monumental arch of the *śukanāsa*—long-time survivor and transformation of the large window of the façade of a hall such as a Buddhist *caitya* hall—on the super-structure of the *prāsāda* above the entrance of the *prāsāda,* to the smallest "dormer window" motive, in miniature size carved on the *śikhara,* on the walls, on a molding of the plinth or on the entablature, in short in nearly every part of a *prāsāda.* Having originally been a window, that is, part of a façade, the curvilinear shape of the *gavākṣa* lacks the three-dimensional impact of the aedicule. It is, on the whole, part of the surface, which it occupies singly or in rows. The rows run horizontally when *gavākṣas* of different size and complexity are superimposed, or, and this is the most significant and ultimate function of the *gavākṣa* in horizontal and vertical rows, the *gavākṣas* then being continuous, forming entire panels on fields of *gavākṣas.*

The *gavākṣa,* moreover, from the seventh century, as is seen on the façade of Cave X at Ellora, does not remain intact (Pl. 2). Its curve is split, the resulting segments are detached and, with a marked separation intervening, are, once more, added to their nucleus. The motive, freed from its original function, enters in other examples into combination with the shape of the pillar whose upright shape contributes the verticals as the connecting dimension of the closely knit *gavākṣa* field. Or, diminutive *gavākṣas* are interlaced. Like with a clinging veil, the walls of the *prāsāda* are encrusted with their continuous network (Pl. 3). In increasingly large panels its patterns form, as it were, a visibly breathing epidermis, space being caught in their meshes. It was particularly in the Karṇāṭaka country that Cāḷukya architects in truly creative logic followed the potentiality

of the *gavākṣa* motive to one of its formal conclusions. They emphasized the light playing over the *gavākṣa*-net in intricate linear patterns and they caught space in the opening of each *gavākṣa* and led it into darkness. They graded the "window" openings stepwise, in an abstract sequence of vertical planes, receding in each of the openings or eyelets as into a well of darkness.

Diminution of the original theme or motive in ever increasing series of proportionate sizes, repetition of these diminished shapes in one or two dimensions, that is singly, connected in alignments or forming entire fields, while using the whole or split motive as units of design; and deepening of the planar motive in the third dimension, that is not protruding into space but sunk in graded steps into the very fabric of the *prāsāda:* all these principles are given form in various stages and combinations and in an eruption of creative design having the motive of the *gavākṣa* as its nucleus.

The motive lent itself, moreover, to superimposition, and appears as the highest sculptural accent on moldings whose curves suggest their original functions as roofs. When superimposed, not singly however, but as an entire *gavākṣa* field, this seems to adhere, like a lace curtain, to those repeated and assembled roof shapes carved underlying it. They carry the *gavākṣa* field which is caught by their edges, running in parallel horizontals as moldings, simulating vertically staggered miniature roof eaves whose striations, with the space intervening between them, remind one of the structure of gills through which fish breathe.

While the foregoing spontaneously evolved principles of planar and three-dimensional pattern and texture of the *prāsāda* interweave in ever varied combinations and become integrated into new units such as that of the striated field of eaves overlaid by the *gavākṣa* net, another—specifically Orissan—motive may be mentioned which follows similar principles. It occupies the plinth of the *prāsāda* where the pot-shaped *(kumbha)* and other moldings are spanned by an overlying curve carved as subtly as a tendril in the highest plane of this architectural "relief".

The principle of inscribing or inserting one theme as subordinate to another theme or motive has a less long-lived or widely spread currency although historically it is full fledged as early as the Buddhist cave temples at Pitalkhora (Pl. 4). There, a façade of a vaulted shrine is carved within a trabeate, rectilinear *harmikā* of a stūpa. Equally explicit are the domed shrines carved in relief and encompassed by the profile of the vault of some of the temples (Bhīma Ratha, Nakula and Sahadeva Ratha) at Mahabalipuram (Pl. 1). In these instances, the inherence or subordination is of one theme in another on the one hand and of a theme on diminished scale

in a full scale part of the actual monument on the other. The insertion in each case is framed by the dominant theme or motive. This principle applied three-dimensionally and centuries later, on the curvilinear ascent of a Nāgara *śikhara,* makes this high tower throw forth diminutive multiples of its own shape in high relief or practically three-quarters in the round, each one and all of them subordinated to the bulk and inscribed to the outline of the total *śikhara* (Pl. 5). The part-*śikharas* (called chest *śikharas,* or *uro-sṛṅga*), each being half a *śikhara* and a sub-multiple of the total shape, clings to the "chest" of the Puruṣa with which this part of the super-structure of the Prāsāda is homologized. These sub-*śikharas,* ranging in height to a given part of the total *śikhara,* and graded down to miniature *śikharas* (Pl. 3) whose height, being but a small fraction of the actual height, may be grouped in horizontal series at the springing of the curve of the total *śikhara,* each a miniature model of the shape of the total *śikhara* all complete with such themes as the network of *gavākṣas,* the punctuating *āmalaka* and other themes and motives compacted according to the rules indicated above, which work on the *prāsāda* in all its parts and make its exterior a creative integument of the Puruṣa. The purely formal coherence of these principles shows the *jīva,* the living spirit of the *prāsāda* embodied in every particle, in every definable unit of architecture.

The *prāsāda* as Puruṣa is permeated by Śakti and pervaded by Virāj, the ordering intellect, as it shows forth stepping out in the four directions from the center in the *garbhagṛha.* Its impact is visible in the buttresses, their centrifugal gradations and centripetal recesses (Pl. 6). Each of their planes in turn is informed by an architectural vitality which shows forth from the pattern of the three-dimensional texture of the walls, the body of the Puruṣa.

PRABHASHANKAR O. SOMPURA

THE VĀSTUVIDYĀ OF VIŚVAKARMĀ

I. INTRODUCTION

The western Indian *vāstu* text *Vāstuvidyā*, the authorship of which, as of most medieval Western Indian texts, is attributed to the celestial architect Viśvakarmā, has so far been a lost text of the Māru-Gurjara tradition of architecture and iconography. I will give you, in this talk today, a gist of those chapters in this text which deal with the constructional aspects of temples.

In the first three centuries of the present millenium when the Solaṅkīs of Aṇahilapāṭaka and other dynasties ruled in western India, the Māru-Gurjara style of medieval architecture held absolute sway in Gujarat and Rajasthan. The tradition received a setback at the end of the thirteenth century when the Muslims overran western India. There was a revival in the fifteenth century and again in the early seventeenth century. From the last few decades of the eleventh century a progressive decadence of decorative art set in. The degradation in formal elegance and metrical accuracy started in the beginning of the fifteenth century. But despite these mishaps, the tradition still survives. I happen to be one of the few hereditary exponents of this tradition. I am happy to have been invited to speak before this international gathering of experts on Indian temple architecture.

The medieval architectural tradition in western India has survived because of the preservation of the *śilpins'* manuals of constructional rules and also due to the constant patronage of the Jainas. Adherence to these manuals could not help the builders in recapturing the excellence of the art of the bygone days; but it was at least of some assistance in working out the measurements and guided the chiseling of the moldings, which thus carried some resemblance to the original architectural forms, both in their individual aspects and in their totality.

In the present-day context, the building of temples in a traditional style seems anachronistic. The old codes of structural rules have their use today not so much in the construction of temples as in helping towards an understanding of the forms of the temples in the actual idiom of those who

used to build them in the grand old days of the medieval era. The new finds in the sphere of literary works on architecture must prove a welcome source for enlarging the field of vision, and will thus permit a subtler appreciation of the technical and formal aspects of the Māru-Gurjara temples.

The existence of the *Vāstuvidyā* was suspected by me while I was working on one other Māru-Gurjara text, the *Dīpārṇava.*[1] At the end of some chapters,[2] some manuscripts were found to end with a short colophon reporting that they formed part of, or were in some other way connected with, a work called *Vāstuvidyā* of Viśvakarmā. The *Dīpārṇava,* as demonstrated by M.A. Dhaky through an analysis of its contents, is a compilation formulated possibly in the sixteenth century; it borrows from the *Vāstuvidyā* and the *Aparājitapṛcchā* to a great extent, and, to a lesser extent, also from two other works, the *Kṣīrārṇava* and the *Vṛkṣārṇava.*[3] Later on we could see that the *Vāstuvidyā* excerpts in the *Dīpārṇava* often represented rather the gist, and in some cases approximations, of the original; unabridged, unaltered *Vāstuvidyā* passages were few.

The *Vāstuvidyā* part of the *Dīpārṇava* differed in the matter of language, exposition, and treatment of content if not in the overall technical vocabulary and content itself, from the well known authoritative work of the Māru-Gurjara tradition, the *Aparājitapṛcchā.* It, in fact, conformed to what is known of the western Indian tradition through extant examples, and through parallels in other Western Indian *vāstu* books, including the *Aparājitapṛcchā.* This was quite interesting, and Dhaky and I decided to conduct a search for the original text of the *Vāstuvidyā.* My disappointment in not encountering a single, authentic manuscript which would give concatenated chapters of that work still persists, but this failure was in large part compensated by the discovery of its several very important and seemingly complete chapters from an omnibus compilation called the *Śrījñānaratnakośa.*[4] Reinforcements came in the form of quite a few stray chapters existing in various institutional and private collections, including my own, which could be identified with reasonable certainty as genuine portions of the *Vāstuvidyā.*[5] The *Vāstuvidyā* seems to have suffered fragmenta-

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1 Now published, Palitana 1960.

2 Chapters 4-9 in particular.

3 See his "Introduction to Prāsādamañjarī," *The Vāstuśāstras of Western India,* edited by me and now in the press.

4 *Ibid.,* for a detailed discussion.

5 *Ibid.*

tion at a very early date, possibly not long after the thirteenth century. Dhaky has suggested the later part of the eleventh or the early part of the twelfth century as the most probable date of its composition.[6]

Since our first awareness of the existence of this work, we have been making efforts to restore the important contents of the original work as completely as possible. In the absence of exclusive manuscripts of the work, the original order of the chapters of the text still remains in doubt. We are also aware that at least a part of the original, even if it is not a very considerable part is still missing; hence we have no wish to hazard any guesses about the sequence of chapters for any future discovery of a complete manuscript may upset our hypothesis.

I shall not dwell on the critical apparatus of the work, or endeavor a detailed analysis and evaluation of its contents. That will appear in the introduction to the illustrated edition of this work which Dhaky and I are planning to bring out soon.

The work is cast in the customary dialogue form. In this instance Jaya, the first of the four mind-born sons of Viśvakarmā, frames questions to which Viśvakarmā gives the answers. The language of the text is a simple Sanskrit; the style is lucid, more lyrical than that of the *Aparājitapṛcchā,* but it is no match for the sophisticated, resonant, dynamic style of the *Samarāṅgaṇasūtradhāra.* The initial chapters of the text should have contained discussions on rites, astrology, astronomy and civil architecture, as was usual with such texts. Some of these chapters have been recovered during our search; however, I will not discuss them here, because, as I said in the beginning, my immediate interest is in presenting the chapters pertinent to the constructional aspects of temples.

II. CHAPTERS ON ARCHITECTURE SUMMARIZED

JAGATĪLAKṢAṆĀDHYĀYA

The *jagatī,* terrace, which supports the temple, has a priority over the temple itself in constructional considerations. The *Vāstuvidyā,* within the compass of the thirty-seven verses, gives the plan and the sequence as well as proportional measurements of the *jagatī,* and also the details of images to be placed in the niches of the *jagatī,* a feature not found in other Māru-Gurjara texts but otherwise known in extant temples. We find in addition

[6] *Ibid.*

a short note on the *pratihāra* figures to be stationed at the stairway of the *jagatī*. The initial description of the *jagatī* pertains to a Śaiva temple. But immediately next to it are mentioned the features of a *jagatī* for a Viṣṇu temple, the Deities to be associated with the *jagatī* being now referable to the Vaiṣṇava pantheon. Next follows the description of the *jagatī* for Caṇḍikā and the Jina. The Jina *jagatī* is interesting in that a correct if short description of the *jagatī* of a medieval Jina temple with its *valānaka* (entry hall), the twenty-four *devakulikās* (chapels) and their order of arrangement above the *jagatī*, the *trika* (vestibule), the *maṇḍapa* (hall) and the *prāsāda* (shrine proper) is here made available.

PĪṬHALAKṢAṆĀDHYĀYA

The exposition of the *pīṭhalakṣana* (character of the socle) covers thirty-two verses. It is fairly detailed and compares favorably with the corresponding and more popular section in the *Aparājitapṛcchā*. Unlike the *Aparājitapṛcchā*, the detailed description of the main class of *pīṭha* omits *vājipīṭha* or *aśvapīṭha* (horse-band) molding. Then follows a description of three other kinds of *pīṭha*, one of which includes the *vājipīṭha*, the features of which have been summarily treated. Following this, is the list of Gods for whose temples the various *pīṭhas* may be constructed. Finally, a short warning about the consequences that can result from flaws in the construction of the *pīṭha*.

The *Vāstuvidyā*, curiously enough, uses the archaic term *kaṭi* instead of the more popular medieval *maṇḍovara* for the wall of the temple. This chapter gives the proportional height of the wall in relation to the width of the temple, the apportionment of *salilāntara* (intervening recesses), *phālanās* (minor projections of the major proliferations), and the proportions and decorative details of *khura* (hoof), *kumbha* (pot), *kalaśa* (pitcher), *antarapatra* (deep fillet), and *kapotikā* (cyma-cornice). Then follow the details of *masūraka* (pedestal) and of *jaṅghā* (frieze). The term *masūraka*, as against *mañcikā* found in the *Aparājitapṛcchā*, is noteworthy. The *jaṅghā* is said to have a *khattaka* (projected niche) on each *bhadra* (central offset). The term *khattaka* is known from inscriptions in the Jaina temples at Dilwara and Kumbharia, but is not mentioned in the *vāstu* books with which we have been till now familiar. Among the *bhadradevas* (images in principal niches), the usual formula which recommends Śiva-Andhakavadha in the southern, Naṭeśvara in the western and Caṇḍī in the northern niche is also found in this work, though the phraseology is distinct

from what is found in the *Aparājitapṛcchā*. But it also gives an alternative (not given by the *Aparājitapṛcchā*), which provides for the placement of the image of Puruṣatraya (Brahmā, Viṣṇu and Śiva) in the three cardinal niches respectively; this placement is known from a few Māru-Gurjara temples. The text, moreover, refers to the *rathikās* (framed panels), the figures of Dikpālas to be stationed on (the *karṇa* part of) the *jaṅghā* and of Munis (ascetics) in the *sampātakoṇas* (recessed corners). It may be recalled that the *Aparājitapṛcchā*, too, takes note of this feature. Muni figures began to be featured instead of *vyālas* (in *salilāntaras*) in western Indian temples from about the beginning of the eleventh century.[7]

On *bhadra* parts, to top the niche, the *Vāstuvidyā* next recommends the placement of *siṁhakarṇa* (pediment). It is worth recalling that the *Aparājitapṛcchā* prefers the term *udgama* for the same member. Then follow details of the sur-courses: in turn the *bharaṇa* (capital), the (upper) *grāsapaṭṭikā*, the *kapotālī* (eave-cornice) and the *kūṭacchādya* (ribbed awning). The text then suggests the alternative proportion of *kaṭi* in concise language. The chapter ends with the usual warning about the consequences that follow any neglect of the prescribed proportions.

ŚIKHARALAKṢAṆĀDHYĀYA

This chapter furnishes within a compass of twenty-nine verses some very useful details about the formal aspects of the Māru-Gurjara *śikhara*. Initially the plan of the *śikhara*, the apportionment of its divisions—*bhadra*, *koṇa* (corner), and *anuga* (*pratiratha*)—the *kalās* (minutiae) of the *rekhā* (curvature), the proportional width of the *skandha* (shoulder) together with a brief hint on the delineation of the *rekhā*, receive attention first. There is a very clear and important injunction: the number of *bhūmis* must be *viṣama* (odd), from three up to fifteen. Then follow details of *grīvā* (neck), *āmalasāraka*, *candrikā* (capstone), *āmalasārikā* (diminutive *āmalasāraka*) and *kalaśa* (pitcher-finial). After this there is a short description of *prāsāda puruṣa*—the personified temple—and its possible locations in the *śikhara*-body. The text then enumerates the twenty-five kinds of *rekhās*. Their details, however, are not given.

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[7] See M.A. Dhaky, "The Chronology of the Solaṅkī Temples of Gujarat," *Journal of the Madhya Pradesh Itihas Parishad*, No. 3 (1963), p. 26.

DHVAJALAKṢAṆĀDHYĀYA

A detailed description of the flag and its staff forms the subject of this chapter; its placing on the upper part of the *anuga* plane of the *śikhara* and in relation to the orientation of the temple is explained in clear terms. The text also makes a clarification apropos of the position of the flag staff in a special case like the *caturmukha prāsāda* (four-faced temple). It next enumerates other auspicious spots for flags, including the *toraṇa, śukanāsa* (antefix on the fronton of the *śikhara*), and the *valānaka.*

The text gives five different *pramāṇas* (proportions) of the flag staff: Jaya (*triparva,* "trinodal"), Śaktirūpa (*pañcaparva,* "pentanodal"), Suprabha (*saptaparva,* "septanodal"), Jayāvaha (*navaparva,* "enneanodal"), and Viśvarūpa (*bahuparvasamanvita,* "multinodal").[8]

The text cautions that demons are tempted to reside in flagless temples.

DVĀRALAKṢAṆĀDHYĀYA

The features of the doorframe are described in a fairly detailed form and encompass twenty-nine verses. Compared to the *Aparājitapṛcchā,* the *Vāstuvidyā* is succinct here. Nevertheless, some new and important information not to be found in the *Aparājitapṛcchā* is found here.

Among the *śākhās* (facia) of the jamb are mentioned *rūpa* (figure-bearing), *patra* (bearing foliate scroll), and *khalva* (scooped) varieties. These names are also found in the *Aparājitapṛcchā.*[9] The middle *rūpastambha* (figure-bearing pilaster) of the latter text has, however, been termed *bhadraśākhā* (central jamb) in the *Vāstuvidyā.* If the *śākhās* of the door by proportion be twenty parts, the text enjoins that eight parts be reserved for the *nigara* (framed, tall panel); in the *nigara,* on the right side, should stand Nandi and on the left side, Mahākāla, the two attendants of Śiva. This is the rule for the Śaiva temple. Above the *nigara* should be carved the forms of Śiva enshrined in three or four superimposed *rathikās* (framed panels). Above these panels must come the *bharaṇa* (capital) decorated with *pallavas* (foliage). On the *uttaraṅga* (architrave) of the door should be carved *mālādharas* (garland-bearers) and in the center, Vināyaka. Along

[8] The names found here are different from those given in the *Aparājitapṛcchā* (cf. chapter 144), published in the Gaekwad Oriental Series XV, Baroda 1950.

[9] Cf. Chapters 130-1 and 132.

with the Grahas in panels, as the text enjoins, the *adhināyaka rūpa* (representation of cult image) should be carved. These details are faithfully reflected in actual examples.

The text next describes in detail the forms of the *udumbara* (doorsill). The *udumbara* is to be divided into three parts, the central one with a lotus stalk and a lotus above it.[10] On either side of this are to be carved (projecting) *grāsamukhas,* and on the outer sides of these Dhanada and Vināyaka.[11] The text next admonishes the *śilpins* to observe strictly the rules of alignment for the *śākhās;* failure attracts death to the builder and childlessness to the architect. It ends with the description of *ardhacandra,* the moonstone near the doorsill; details, such as the lotus and the *śaṅkha* (conch-shell) to be carved in relief on either side of the middle, semicircular, and main part of this member, are specifically mentioned.

KOLIKĀLAKṢAṆĀDHYĀYA

Kolikā, also called *kapilī,* is the wall connecting the *mūlaprāsāda* (main shrine) with the *maṇḍapa.* Both terms are to be traced in the *Aparājitapṛcchā* as well. The *Vāstuvidyā* gives specific details, including the various proportions in relation to the main shrine.

Kolī is to be articulated at the *karṇa* (frontal corner). It should not overtake or interpenetrate the *karṇa* in a proportion exceeding half the dimension of the *karṇa.* Above the *kolī* is to be placed the *śukanāsā.* The temple without the *nāsa* is of no consequence.

The text next dwells on the proportional measurements of the *kolikā* in relation to the main shrine. If it be half the size of the main shrine, it is the most ample *(jyeṣṭha);* if it be one-fourth, it is of a middling kind *(madhyama);* if one-third, ordinary *(kaniyasa).* Where a *kapilī* of *jyeṣṭha* proportions is featured, a *maṇḍapa* is inevitable (in the design). In conceiving its *nirgama* (projection), the *koṇamaryādā,* that is, the alignment of the corner, must be kept in mind. The introduction of *jalāntara* (recess) must also follow the *koṇamaryādā.* Only the insensible *(alpabuddhi)* try to plan a *jalāntara* in the central part of the *kolī,* the text says.

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[10] The term *mandāraka* used for this part in the *Aparājitapṛcchā* is not mentioned here.

[11] I seem to recall that the doorsill of the *garbhagṛha* of the Sūrya temple (A.D. 1027) at Modhera shows Kubera and Vināyaka figures.

MAṆḌAPALAKṢAṆĀDHYĀYA

The characteristic features of a Māru-Gurjara *maṇḍapa* of the *raṅga* or *nṛtya* (dancing) type are described in this chapter. If the *maṇḍapa* be of the same proportions as the *prāsāda,* it is *kanīyasa;* if it be larger by one-fourth it is *madhyama*; if it be larger by half, it is *uttama.* The *Vāstuvidyā* states that if the apex of the *maṇḍapa* can feasibly be kept below the top of the *śukanāsa,* there is no harm in making the *maṇḍapa* even twice as large as the *prāsāda.*[12] The *pīṭha* of the *maṇḍapa* may have the same height as that of the shrine, or be a little lower.[13] The elevational moldings of the hall are, in order, the *rājasenaka* (deep fillet one part in height), *vedikā* (balustrade, one-and-three-quarters), *kūṭākāra*[14] (half part), and *mattavāraṇa* (seat back, of one-and-one-half parts).[15] Resting on the *kūṭākāra* slab, that is, *āsanapaṭṭaka,* the [dwarf] pillar should be made three-and-one-half parts in height. Its *bharaṇa* (capital) should be of half a part and the *śīrṣa* (bracket) should be one-and-three-quarters parts in height. Its width should be the same as that of [the soffit of] the *paṭṭa* (beam).

The *daṇḍacchādya* (ribbed awning) which tops the lintel, should be one-half part high and two parts wide. Its inclined other end should be above the *paṭṭodara* (soffit of the lintel) by a one-twelfth part. Above the *daṇḍacchādya* should be made the *kapotālī* (eave-cornice) in three parts. The present work devotes only fourteen verses to the elevation of the *maṇḍapa.* The *Aparājitapṛcchā* is a little more specific in its treatment of this topic.[16]

KAROṬAKALAKṢAṆĀDHYĀYA

More comprehensive is the treatment of the *karoṭaka,* the great inverted, bowl-shaped, cusped and coffered central ceiling of the *maṇḍapa.* It encompasses as many as forty-two verses. The plan of the ceiling, the moldings of the ceiling such as *dardarī* (cyma reversa), *rūpakaṇṭha* (figure-bearing belt),

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[12] No example of a medieval *maṇḍapa* twice as large as the temple is known from Gujarat. Dhaky informs me that such examples are found at Un (Caubārāḍerā temple No. 2, late eleventh century) in Malwa, in the Citragupta temple (early eleventh century) at Khajuraho, and in the Someśvara temple at Kiradu.

[13] Such is the case with the *gūḍhamaṇḍapa* of the Siva temple at Kotai and the *raṅga-maṇḍapa* of the Sūrya temple at Modhera.

[14] This is the outer face of the *āsanapaṭṭaka* (seat slab).

[15] The *Aparājitapṛcchā* and some other texts also call this member *kakṣāsana.*

[16] See Chapter 184.

kolās (pig-tooth courses), and central *padmakesara* (stamenal tube), together with the details of carving and subdivisions of each molding and their proportional measurements, are given in a fairly detailed form—In fact more than in either the *Samarāṅgaṇasūtradhāra* or the *Aparājitapṛcchā.*'[17]

The *saṁvaraṇā* or the bell-roof, characteristic of the hall of Māru-Gurjara temples, appeared simultaneously in Rajasthan and Gujarat by about the last quarter of the tenth century.[18] A little later Malwa, Jejākabhukti, and Gopagiri also developed the *saṁvaraṇā* with their respective regional flavors.

The *Vāstuvidyā* first gives its height in relation to width. If it be half of the width, it is called Vāmana; if two parts less (if the latter height is divided into nine parts), Ananta; and, if less by three parts, Varāha. These bring peace, well-being, and health (to the builder). The *saṁvaraṇā* should not have a height lower than the proportions demand.

The text next gives the number of *ghaṇṭās* (bells) in relation to the linear measurements of the basal plan and lays down the specific norms of the minimal and maximal size. Next it refers to the general features of the *saṁvaraṇā* such as the *rathikā* and *tilaka* (hall model) to be placed above the *bhadras,* the order of *kūṭas* (minor bells) and *ghaṇṭikās* (major bells), the *mūlakūṭa* or *mūlaghaṇṭā* (crowning bell), and other decorative details such as the placement of the figures of the lion, the elephant, Garuḍa (on the cardinal axes), and the *kalaśa* (whose presence is implied in the text) on each *ghaṇṭā.* Then it proceeds to name the different types of *saṁvaraṇā* and their specific details. Compared to the corresponding portion in the *Aparājitapṛcchā,* this is more elaborate.[19]

KESARYĀDIPRĀKĀRALAKṢAṆĀDHYĀYA

The main variety of superstructure of the temples in the Māru-Gurjara style is a complex of several minor turrets clustering around the *mūlaśṛṅga* (central spire). The *Vāstuvidyā* must have had several chapters on the various forms of superstructures, of which Dhaky and I could trace only a few. We hope to locate a few more in the foreseeable future. The most important of these is the series which begins with a *pañcāṇḍaka* Kesari type. The *Vāstuvidyā* reserves some two hundred verses for the plan and constructional

17 See *Samarāṅgaṇasūtradhāra,* Chapter 67, and *Aparājitapṛcchā,* Chapter 184.

18 Dhaky, "Chronology," p. 27.

19 See Chapter 193.

details of the *śikharas* of this series. This may be compared profitably with the same series found in the *Samarāṅgaṇasūtradhāra*. Most of the later Māru-Gurjara works, and even the *Aparājitapṛcchā*, seem to have depended for information regarding the Kesari *prāsādas* on the *Vāstuvidyā*.

Manuscripts describing details of the Sarvāṅgasundara *prāsāda* and the Śrīvatsa *prāsāda*, which originally formed part of an independent chapter in the *Vāstuvidyā*, are now lost.

JINENDRAPRĀSĀDALAKṢAṆĀDHYĀYA

The contribution of the Jainas to pre-medieval and medieval western Indian architecture cannot be overestimated. Western Indian *vāstu* texts unfailingly refer to the architecture of Jaina temples, and to the iconography and iconometry of Jaina images as well.[20] The *Vāstuvidyā* devotes 136 verses on the details of the fifty-two types of Jaina temples, Samavasaraṇa and allied matters.

Chapters pertaining to twenty-seven types of *maṇḍapas*, *prākāra* (rampart), *pratolī* (gate), and *kīrttistambha* have also been recovered. These are at the moment under study, and in any case the last three do not come within the purview of this paper.

[20] The sections on these topics in the *Vāstuvidyā* are the most detailed among those recovered, and are by far the most important.

ALICE BONER

EXTRACTS FROM THE ŚILPASĀRIṆĪ

The *Śilpasāriṇī* is an unpublished Orissan treatise dealing exclusively with the technicalities of temple architecture, a sort of manual for *sthapatis*. As a matter of fact, the traditional *sthapati* in Puri from whom my collaborator, Pandit Sadāśiva Rath Śarmā, obtained the first copy claimed it to be a compilation from other texts made by one of his ancestors. Recently, however, another copy has been found in the south of Orissa, which has some additional chapters. Therefore, as long as both the copies of this text have not been thoroughly studied and collated, it will not be possible to have any certainty either about its author or about its exact time.

For the same reason, the few extracts I can show you today cannot claim to be final versions of the text; many problems raised here still await solution. What I can give today is just a glimpse into the workshop of the *Śilpasāriṇī* in order to show the method by which it describes and analyzes temple architecture. This method appears to be different from those used in other parts of India, where a definite proportion between the heights and the widths of the elements constituting a temple seems to be the guiding criterion. Here, instead, constructions of temples and of *mukhaśālās* are based on one fundamental measurement, called *mūlasūtra* or *mūlabhāga*, according to which all parts of the structure have to be drawn.

The text begins by giving a general idea of the "Secret of Śilpavidyā" :

> "Only to the *sthāpaka* of the Viśvakarma[1] community and to no one else should this very deep and secret *śilpajñāna* be given.
>
> "Only to those who belong to the same class of *sthāpakas*, their obedient and dear disciples should the eight limbs of this science be imparted.

[1] It should be remembered that in Orissan tradition Viśvakarman and Śukrācārya are symbolical terms which stand for different trends in art, the first giving expression to the laws of order and co-ordination, the second to the forces of expansion and disruption. One could be called "classical" or "Apollinian," the other "baroque" or "Dionysian."

"The divisions, the measurements, and the sculptural work should be given in due order; the *sūtrajñāna* (knowledge of the basic unit of measurement) should not be given to the *sthāpaka* or the loved ones.

"Before the time the measurements of the temple have been mastered. Only then the *sūtrajñāna* should be given with affection to that best disciple.

"When he has somewhere made a temple with correct measurements, then the expert, after having minutely examined it, can give him the *rekhājñāna.*

"When after the construction of a temple the *rekhājñāna* is conferred, it should be only on those who are in the line *(nyāye)* of sons and grandsons, and on no one else.

"This *śāstra [Silpasāriṇī]* is the best for the *sthāpaka* and always gives him pleasure. In it mainly the measurements (proportions) have been disclosed, and less other things.

"*Sāriṇī* means measure, which is required for all *Śilpas,* in all kinds of art. Because it deals with measurements (proportions) this book is called *Śilpasāriṇī.*"

In these few *ślokas* the distinction between the method of this text and that of the others *śilpaśāstras* seems to be fairly clearly indicated.

The *Śilpasāriṇī* devotes a chapter to the rules concerning the *mūlasūtra.* There are three kinds of *mūlasūtras:* the highest, based on the height of the temple; the middling, based on the *muṣṭi* of the *sūtradhāra* or the *yajamāna;* and the lowest, based on the plinth of the temple.

For finding the highest *mūlasūtra,* the projected height of the temple should first be divided into ten parts, and these again into five parts. This part, that means one fiftieth of the total height, is the *mūlasūtra.* This is the best *mūlasūtra* according to Viśvakarman.[1]

The middling *mūlasūtra* denotes a kind of personal relationship between the builder, be it *sthapati* or *yajamāna,* and the temple, since the *mūlasūtra* is based on his *muṣṭi,* on his cubit taken with the fist. The lowest *mūlasūtra* is taken according to the measure of the plinth, the *vīthipīṭha,* the platform on which the temple stands.

Thus the first one is found by division of a given height, and the last one by multiplication of a basic part, both these operations having quite different implications. The great merit of this text, in my opinion, is that by the consistent use of the *mūlasūtra* for the build-up of the temple described in it, it gives a thorough training to the eye in the laws of proportions—

which anyway are the secret of the undying beauty of these ancient monuments, whether big or small, whether whole or in ruins.

Faithful to its principles, the *Śilpasāriṇī* always begins the description of a temple by laying out a grid whose squares are in the measure of the chosen *mūlasūtra*. On this the ground plan is drawn. Another grid is given for the elevation, which may or may not have the same divisions. When describing the elevation, the horizontal and the vertical divisions are given separately. This does not mean, however, that these categories can always be kept neatly apart. Since these two categories overlap, repetitions occur quite frequently. Only when measures and proportions have been established in height and width does the text proceed to detailed descriptions of the various architectural elements, their moldings, sculpture and ornamentation.

The temples are not mentioned by the name of the Divinity to whom they are consecrated. They are *always* described as architectural types, such as: Samabhadrapīṭha for the Saḍi Deul type; Samasarvatobhadrapīṭha for the Rājarānī type; Samadvipūrapīṭha for the Paraśurāmeśvara temple type. Since they mostly concern well known monuments, their identification is not difficult. Moreover, the descriptions are so elaborate and precise that on their sole strength one can recognize a temple and, in most cases, make fairly correct drawings of these temples.

GROUND PLAN OF THE MAHĀPRAŚASTA PAÑCARATHA *PRĀSĀDA AND MUKHAŚĀLĀ*

I shall, in the short time at our disposal, be able to show you only a few items from the description of the Mahāpraśasta Pañcaratha *prāsāda* and its *mukhaśālā*. This temple is presented in the same category as the Kailāsa Bhadrapīṭha with the Saumyabhadra *mukhaśālā*, of which the Liṅgarāja temple in Bhubaneshwar is the most important representative. The Mahāpraśasta is described as an extension and enlargement of the Kailāsabhadra and obviously refers to the great temple of Sūrya in Koṇārka.

Fig. a is a drawing of the ground plan done exactly according to the description in the text. The grid on which it is laid out has 22 divisions in width called *bhūmibhāgas*. How many it has in length is not mentioned.

These divisions represent the *mūlasūtra*, the fundamental unit of measurement, which controls all proportions in the *horizontal extension*. The *mukhaśālā* together with the projecting walls by the side of the portals (the *alasābāḍas*) is 22 *mūlasūtras* in length and breadth. The outer wall of the hall alone covers 18 *mūlasūtras*, and the interior space of the hall covers

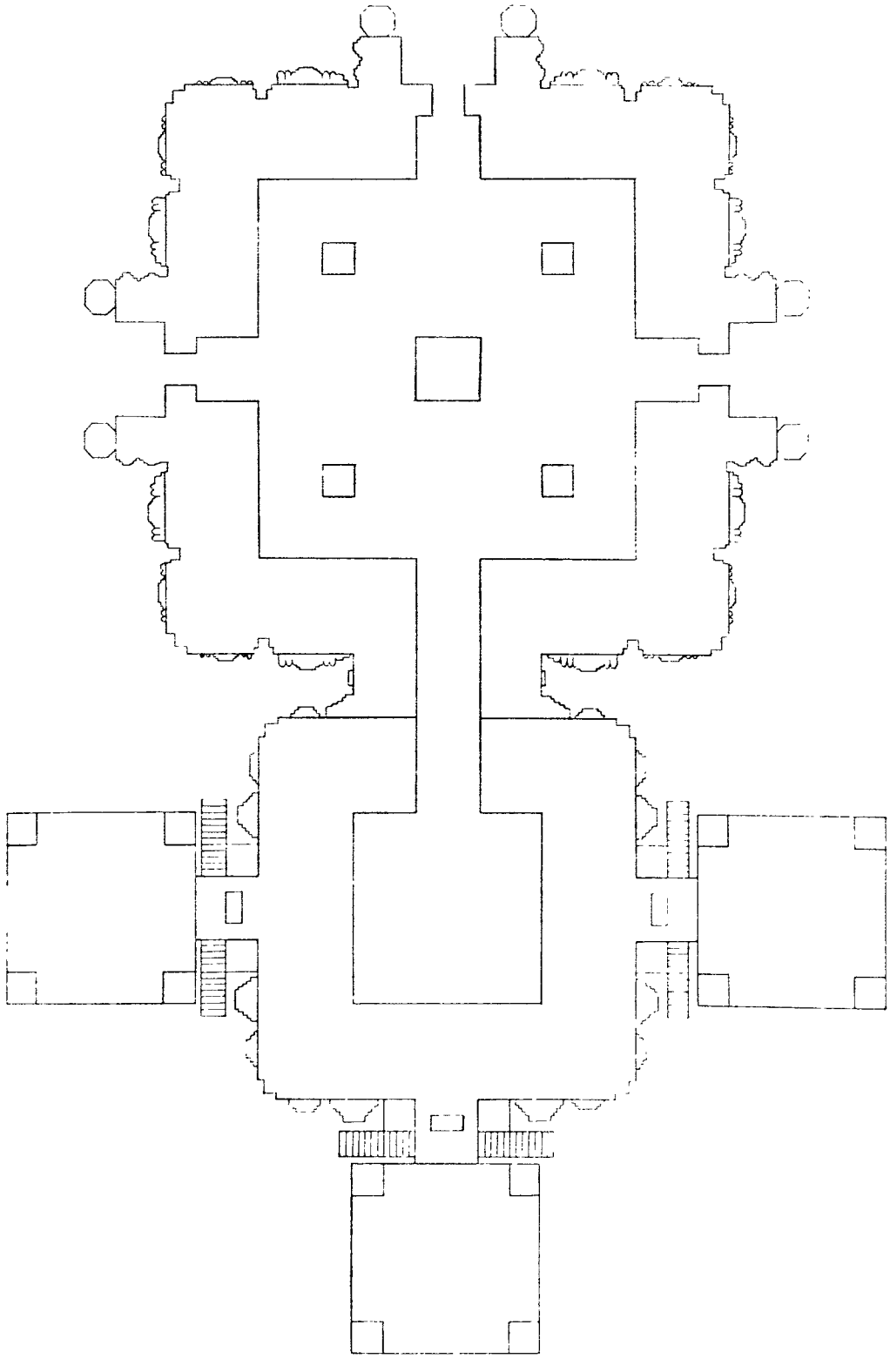

Fig. a. Ground plan of the Mahāpraśasta pañcaratha *prāsāda* according to the *Śilpasāriṇī*.

12 *mūlasūtras* in length and breadth. This leaves 3 *mūlasūtras* for the thickness of the wall, which includes the uncut solid wall *(achidrabhitti)* and the sculptured outer wall as well. The central part of the wall, the *rāhā* with the side walls *(alasābāḍa)* has a projection of 3 *aṁśas*. The *aṁśas* here seem to be half *mūlasūtras*. In front of these walls there is an additional part of one *mūlasūtra* for the big pillars, which support the *bāṅkāpaṭi*, the broad arch above the portal. This portal between the two projecting walls has a width of 4 *mūlasūtras*. When this width is divided by 3, the central part is the door passage and the side parts are for the door-frame.

After that we have the divisions of the wall part, beginning from the *koṇaka*, the corner part. These divisions are not taken strictly along the line of the ground, but mostly on a line above the *pañcakarma*. The *koṇaka* occupies one *sūtra* and is divided into three *koṇāṁśas* (vertical recesses) in the form of straight pillars. At its base it has a *pañcakarma*. Next follow two *pratirathas*, in the form of small pilasters, occupying together one *sūtra*, and after that an *anartha* of one *sūtra*, containing a small *rathaka* with a niche for images. This is again flanked by two *pratirathas*, together of one *sūtra* width. Then comes a deep recess of one part which touches the uncut wall, and has two higher, flat half-parts on either side. The deepest part is meant to hold figures of *kanyās*, *mithunas* and *virālas*.

After having so rigorously enjoined that the *mūlasūtra* or its divisions should be respected in the minutest details, the text makes a rather curious statement, that is to say that from here on (up to the projecting walls) the *mūlasūtra* should become slightly narrower. (In the actual building such a decrease is, however, not perceptible, although, after measuring, it proved to be a fact.)

After the recess there is an *anartha*, flanked, as before, by two *pratirathas*, but this group should project by half an *aṁśa* more than the previous one. Finally is another recess of one *sūtra* reaching the *alasābāḍa*, and containing figures like those I mentioned before. The projecting walls are adorned outside by two narrow *anarthas*, which on account of being on the *rāhā*, are called *anurāhās*. They have no *pratirathas*, but otherwise they have the same features as the main wall.

The text mentions repeatedly that in this wall-work the two groups of *anarthas* should be very clearly set off from one another (evidently by the deep recesses with *virālas* and *mithunas*).

Portals should be made on all three outer sides, and should be made towards the *garbhagṛha*. In front of each portal there should be two round steps *(nandāvartas)*.

The *garbhagṛha,* laid out on the same grid, has twelve *mūlasūtras* in length and width, from *koṇaka* to *koṇaka*. The distance between the *mukhaśālā* and the *garbha* is not indicated. It can only be calculated in accordance with the projections of the *rāhās* on either side and the *gaṇḍi-śikhara* on the front of the *vimāna*. The inner space of the *garbha* is six *mūlasūtras*. The *rāhā* has four parts in width. The two central parts contain the niche for the *pārśvadevatā,* who must be placed in the middle, on the *madhyasūtra*. The wall by their sides should be without any ornamental carving.

In front of the *rāhās* are the *niśā* temples, which are of four parts (of six *mūlasūtras*) and have four pillars in the corners (in the upper storey). They have (in the lower storey) *dvārabandhas, anarthas* and *koṇakastambhas*. These elements have to be made on all four sides according to a *mūlasūtra* which is $\frac{1}{4}$ of the *mūlasūtra* of the temple.

AN ANALYSIS OF THE GROUND PLAN

On analyzing this ground plan, the geometrical relationship between all the parts becomes evident. In this complex construction there is no single part that has not a direct connection or correspondence with all other parts. This seems to be a pretty obvious statement, but its full impact only comes to light when putting them to the test of a diagram (Fig. b).

Here the diagram is placed upon a design made according to the description of the text (Fig. a). Let us first consider the dimensions.

The outer square enclosing the *vimāna* from *koṇaka* to *koṇaka* has exactly the same measure as the inner square of the *mukhaśālā*. The inner square of the *garbhagṛha* is equal to the room between the inner corners of the four pillars of the *mukhaśālā;* it is also equal to the outer squares of the three *niśā* temples. Thus the *niśā* temples would hold in the inner room of the *garbhagṛha,* the *garbhagṛha* would hold between the pillars of the *mukhaśālā,* and the outer measure of the *garbhagṛha* would hold in the inner space of the *mukhaśālā*.

This can be demonstrated in another way, by enclosing each of these parts within a circle (Fig. b). The circle touching the four inner corners of the *garbhagṛha* is equal to a circle touching the four inner corners of the *mukhaśālā* pillars and to those around the outer corners of the *niśā* temples. A bigger circle touching the outer corners of the *garbhagṛha* is equal to a circle touching the inner corners of the *mukhaśālā*. And these two circles touch each other in the middle between the two structures. These are the

correlations of measure and size, which gather the several parts of the structure into a static geometrical cohesion.

But there is also another, a dynamic relationship between the various parts, and that is found by tracing diagonals through the centers of the various shrines and supplementing them with parallels across their corners.

The diagonals across the *mukhaśālā* touch, when extended towards the *garbhagṛha,* the outer corners of the two side *niśā* temples, and thus hold them in their ambit. The diagonals across the *vimāna,* when extended, cut across the outer edges of the *mukhaśālā-koṇakas* and unite them with the *vimāna.* The diagonals across the two *niśā* temples on the sides, with their inward extensions, cut across the outer edges of the *vimāna,* and then run from the junction of the *mukhaśālā* with the *gainṭhāḷa* to the junction of the *mukhaśālā* with the *alasābāḍa* on the other side, passing through the centers of the inner doorways and along the inner edges of the pillars. The other diagonals of the side *niśā* temple, prolonged backwards, form the diagonals of the third *niśā* temple. Thus all *niśā* temples are connected by their diagonals.

Now, if diagonals are drawn as tangents on all the four inner corners of the *garbhagṛha,* they will, when extended, cut across the outer corners of all the *niśā* temples, and when deflected at right angles from their extended center-lines, they will form regular diagonal squares enclosing these shrines. Extended towards the *mukhaśālā,* they will cut the inner corners of the hall and end at the front of the side-portals on the outer limit of the ground plan grid. Deflected from there at right angles, these lines will be cutting across the other inner corners of the hall and meet in the center in front of the main entrance. Thus they enclose the inner space of the *mukhaśālā* in a diagonal square in the same way as they enclose the *niśā* temples.

The entire system of diagonal lines which connects these structures radiates from the inner space of the *garbhagṛha.* The diagonal square in which this *garbha* is enclosed throws out further diagonal squares of various measures in all four directions of space. By prolongations of its lines the positions of all other parts of the building are determined. The whole complex structure acquires the appearance of a living organism in which members grow harmoniously from a central body or nucleus. This nucleus, in a temple, has obviously to be the inner chamber, the *garbhagṛha,* abode of the Divinity. It is alike to the Womb of all Being, the Matrix of Creation, from where emanate in various forms and rhythms, the manifestations of this world.

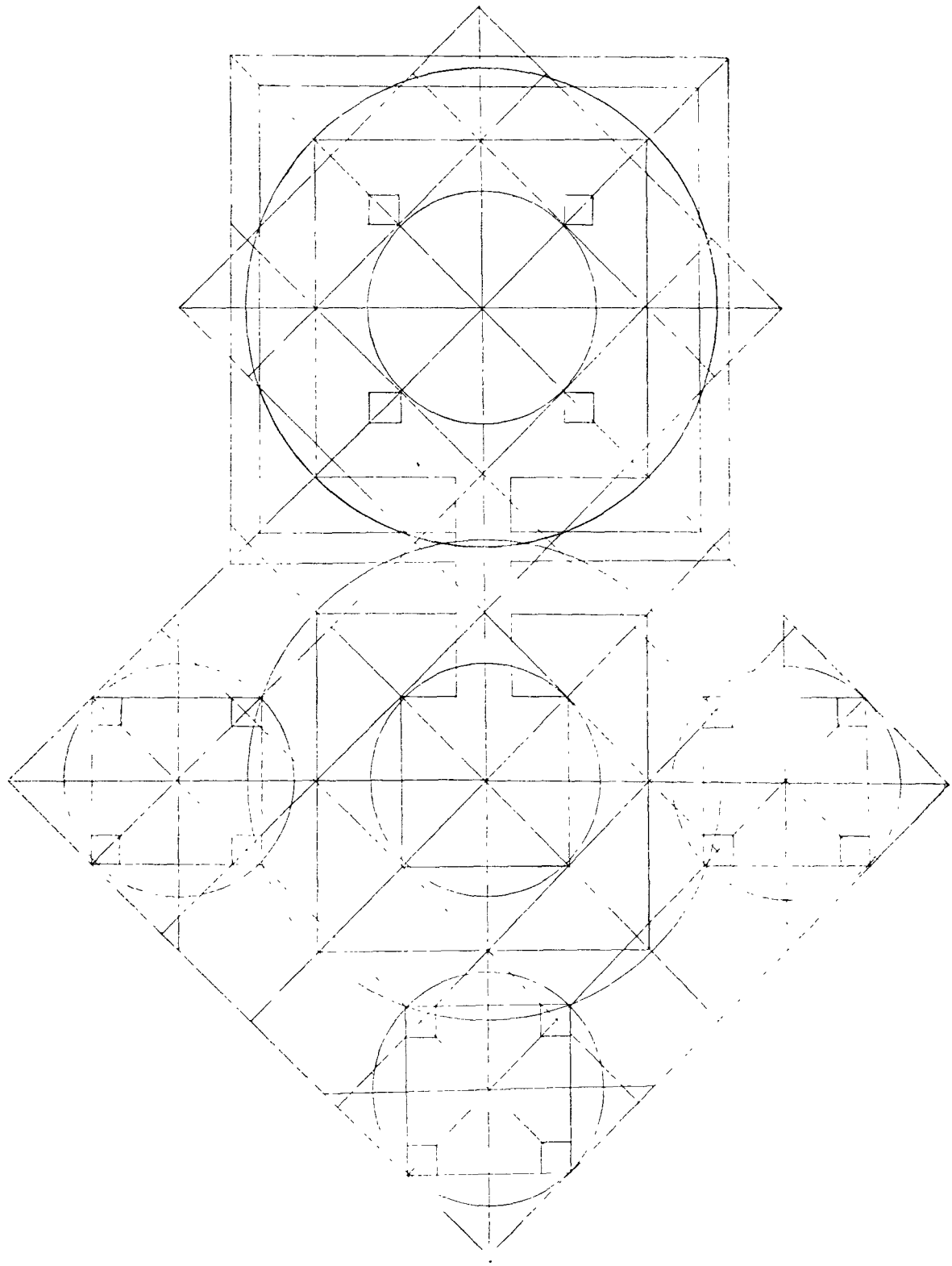

Fig. b. Ground plan of the Mahāpraśasta pañcaratha *prāsāda* according to the *Silpasāriṇī*: geometrical relationship between the various parts.

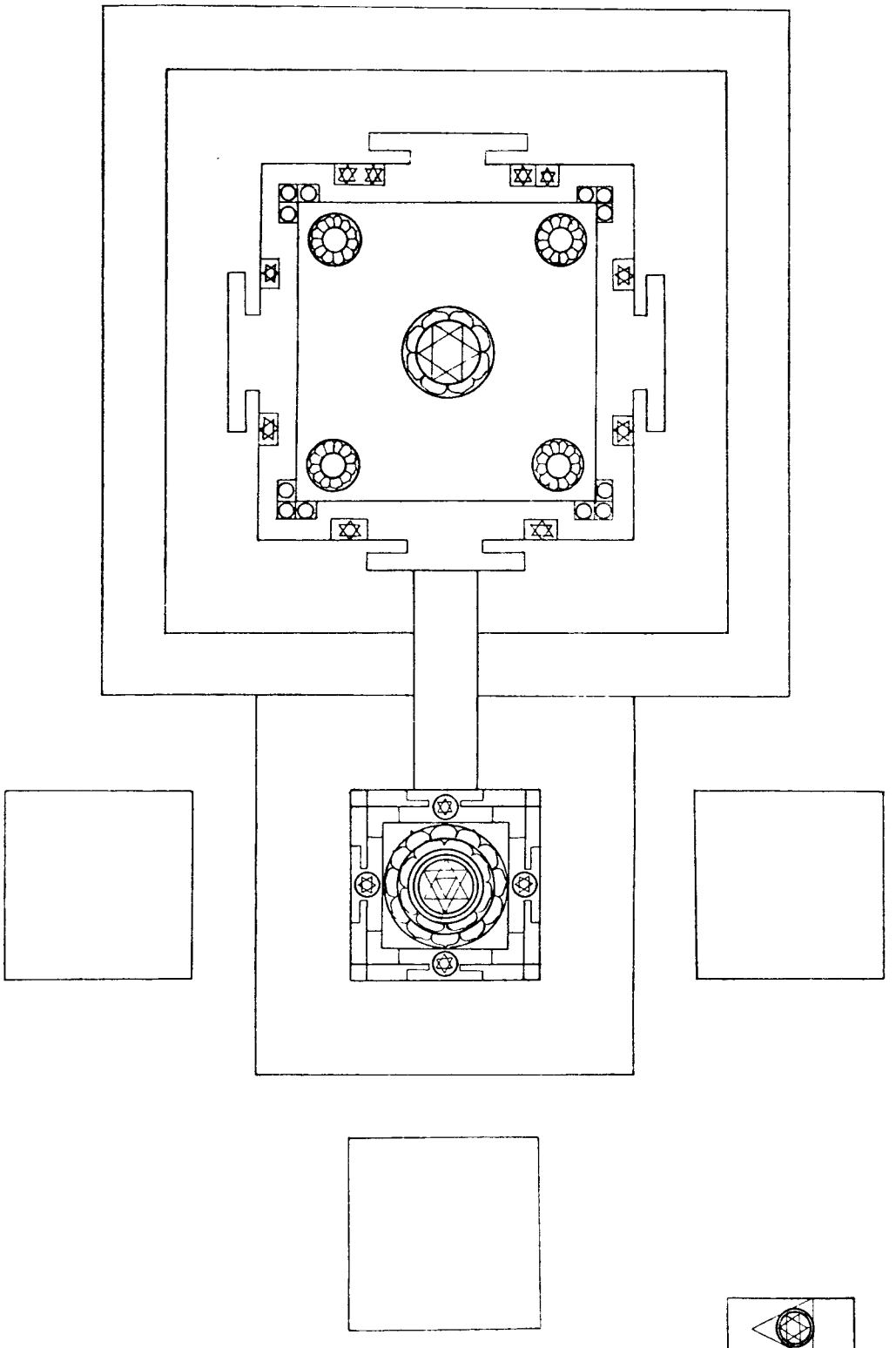

Fig. c. Konarka. Parama Sūrya temple, ground plan.

GROUND PLAN OF THE SŪRYA TEMPLE, KOṆĀRKA (Fig. c)

A glance at the ground plan of the Parama Sūrya temple at Koṇārka (Fig. c) shows that the theoretical plan enunciated by the *Śilpasāriṇī* must have been at its base. How close the construction comes to the original plan can be fully appreciated when the geometrical plan is placed over it.

I mentioned before that the *Śilpasāriṇī* does not specify the distance between the *mukhaśālā* and the *garbha*. On the first drawing the distance between the two was of two *mūlasūtras*. But when a bigger diagram was drawn and put over this plan, it was found that the distance was not more than one *mūlasūtra*, as can be seen here. This does not change the character of the diagram at all. Only the two bigger circles, instead of touching each other, do somewhat overlap, and the diagonals reaching the *mukhaśālā* from the *niśā* temples are somewhat shifted. Those passing through the corners of the *niśā maṇḍapas* converge now into the center of the *mukhaśālā*. Thus the big diagonal square embracing all three *niśā* temples and having the *garbhagṛha* in its center comes into a still more vital contact with the center of the *mukhaśālā*. Its lowest point, instead of floating above, reaches right into the *kendra-garbha*, the central point of the *mukhaśālā*, from where the height of the hall is planned and calculated.

YANTRAS

No ground plan of a temple is complete without the *yantra* underlying its foundations. In this respect, however, the *Silpasāriṇī* is no help.

In an illustrated manuscript on the construction of the Sūrya temple in Koṇārka these *yantras* are shown. But they are not drawn very correctly, nor does the text offer any explanation as to their particular meaning. There is a *yantra* for the *garbhagṛha*, another *yantra* for the *mukhaśālā*, and a third one for the *piṇḍi*, the pedestal of the image. Their correct form—so it seems —and the *mantras* pertaining to them have now been found in a collection of Sūrya *yantras*, called the *Maṇḍalasarvasyā*. As will be seen from their drawings, these *yantras* have a close affinity with the architectural layout of the temple.

The *yantra* underlying the *garbhagṛha* is called the *saurabhadra maṇḍala*. It is to be drawn in a square divided into $6 \times 6 = 36$ parts. The inner room of the *garbhagṛha* on the plan of the *Śilpasāriṇī* is also divided into 36 *mūla-sūtras*. The outermost parts of this square are to be divided lengthwise into two parts so as to form a border. In this border the head of the *bhūpura* is

to be drawn in the outer half of the border and the neck in the inner. The *yantra* itself is traced only within the four inner divisions of sixteen squares, while broad ears are to be added to its outer corners. In the center the *saurabindu* is to be placed, within a triangle. On this *bindu* Mahābhāskara should be worshipped. Around the triangle there is a hexagram and this is surrounded by three circles, which represent the three *guṇas*. Around the circles is a lotus with eight petals, on which the Ādityas are to be invoked, and in the outermost circle there is a lotus of twelve petals, for the Lords of the twelve months.

Sūrya Ayanādhipati (Lord of the Southern and the Northern Courses) has as his *pārśvadevatās* Aruṇa in the east, Pūṣan in the west, Mitra in the south and Haritpati in the north. This is exactly the position of the great *pārśvadevatās* in the outer niches of the Koṇārka temple.

Further, according to the *Maṇḍalasarvasyā,* the *yantra* underlying the *mukhaśālā* is called the *saurapañcābja maṇḍala.* Here the square ground is to be divided into $5 \times 5 = 25$ squares. Two diagonals are traced and thus the center is established. Around this center a lotus of eight petals is to be drawn, not exceeding in size the central division. Then, leaving one division on the diagonals blank, small *maṇḍalas* with twelve petalled lotuses, covering half a division, are to be drawn in the four corners.

On the central lotus, which contains the *bindu* within a hexagram, Sūrya and his Śaktis Chāyā and Māyā are to be worshipped. On the four surrounding lotuses Gaṇeśa and Rudra are to be invoked on the southern side, and Ambikā and Visṇu on the northern side.

Leaving half a part of the outer divisions, another square is drawn, and ears are placed on all its corners. Each ear contains three *bindus,* one in the center and two on the sides. On these *bindus* twelve minor Sūrya Śaktis are invoked, whose names and *mantras* are given. On the outer square are the places for the Dikpālas, in the same directions as the outer walls of the temple. The *bhūpuras* are added outside the square.

The correspondence of this *yantra* with the layout of the *mukhaśālā* is evident, in spite of the fact that the square is divided into twenty-five parts instead of 12 x 12 as on the ground plan. The Sūrya-lotus in the center corresponds to the *kendra-garbha* of the ground plan. The four surrounding lotuses are the pillars sustaining the roof. The Śaktis shown in the corners possibly had small altars there, as shown in the manuscript, and as they indeed have in the Liṅgarāja temple. The Dikpālas in the outer square point to the outer wall and the *bhūpuras* point to the four portals of the temple.

ELEVATION OF THE MAHĀPRAŚASTA *MUKHAŚĀLĀ* (Figs. d, e)

The elevation of the Praśasta *mukhaśālā* again is drawn on a grid, according to the *Śilpasāriṇī,* but its divisions are different. It is based on the height of the temple which is divided into thirteen parts, six for the wall and seven for the roof. The width is said to be of eleven parts. All these *mūlabhāgas* are divided by three, and thus we obtain eighteen *upabhāgas* for the wall, twenty-one for the roof and thirty-three for the base. With the addition of one *upabhāga* in the middle it will have thirty-four parts. How far these divisions can be brought into concordance with those of the ground plan is still an open question. The thirty-three *upabhāgas* of the width can of course be easily incorporated into the eleven *bhāgas* of the ground plan by dividing them by three; but this would entail a different *upabhāga* for the elevation than the one of the ground plan. For the present we have to be content with examining each scheme on its own merits and according to its own *upabhāgas.*

[*Post Scriptum.* Since writing this paper, the concordance between the *mūlasūtra* of the ground plan and that of the elevation has become clear. The difficulty had arisen from an initial error, which was to consider the *mulabhāga* of the elevation as being of the same size as that of the ground plan, but divided into three instead of two parts. If however the *mūlasūtra* of the elevation is taken as having three *upabhāgas* of the same size as those of the ground plan, and thus being $1\frac{1}{4}$ times as big as the *mūlasūtra* of the ground plan, the equation becomes quite simple. Then the divisions of both ground plan and elevation can be reduced to the common denominator of the *upabhāga.* In this way 36 *upabhāgas* of the ground plan would correspond to 48 *upabhāgas* of the elevation, 18 *mūlasūtras* of the ground plan would correspond to 24 divisions of the elevation, and 16 *mūlasūtras* of the elevation would correspond to 12 divisions of the ground plan—and this gives a quite plausible result, as can be verified from the design.

The procedure of taking different *mūlasūtras* for different parts of the building is nothing unusual. In the *Śilpasāriṇī* the *mūlasūtra* of the *vimāna* was generally $1\frac{1}{2}$ times bigger than that of the *mukhaśālā.* Thus it might apply also to different aspects of the same building.]

This *bhadraśālā,* when over twenty-four *hastas* wide, has to have four pillars in the interior to support the roof. Where less than twenty-four *hastas* wide it does not require any pillars, but the walls have to be made

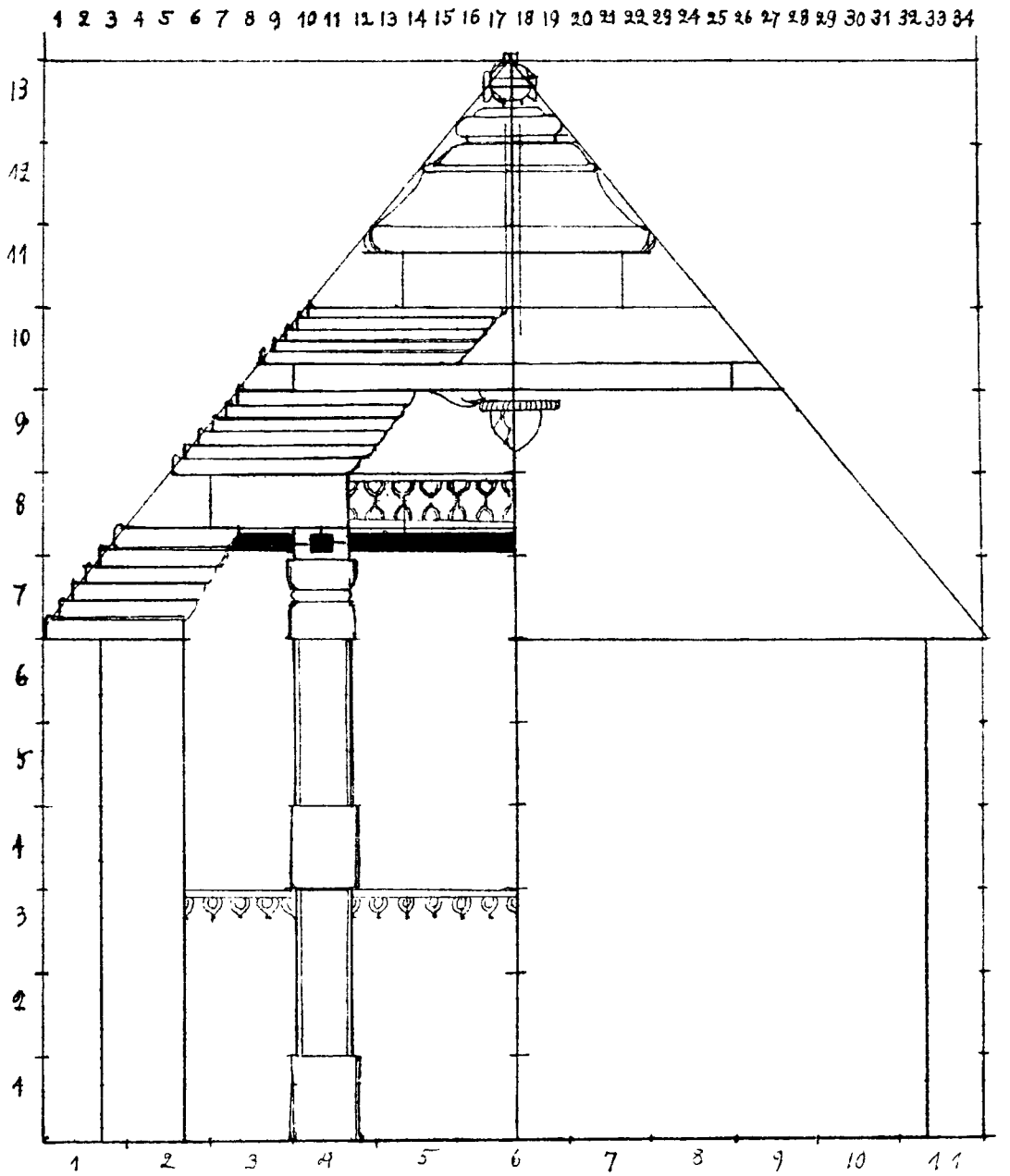

Fig. d. Elevation of the Mahāprasasta *mukhaśālā* according to the *Śilpasāriṇī*.

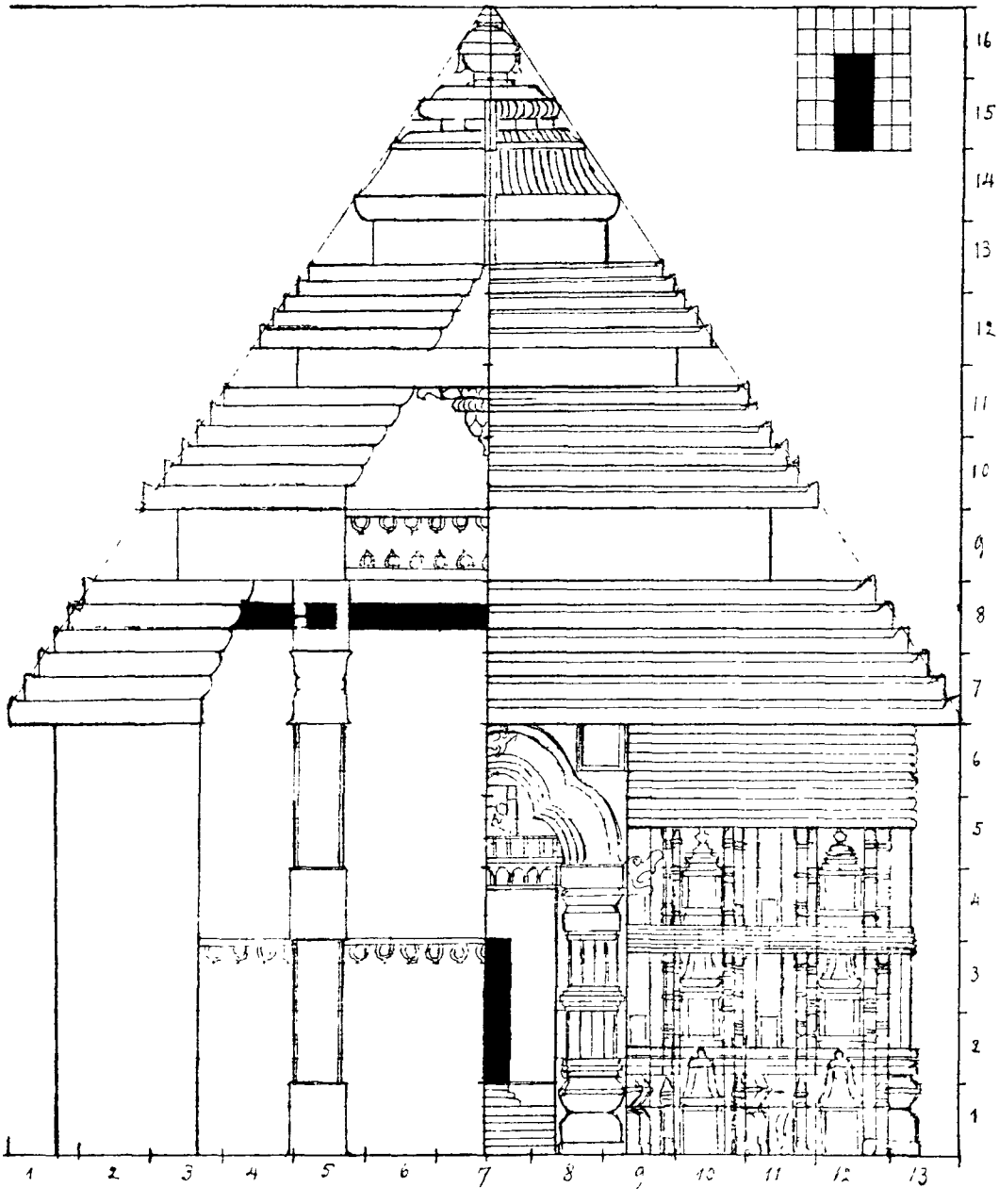

Fig. e. Corrected elevation of the Mahāprasasta *mukhaśālā* according to the *Śilpasāriṇī*.

thicker. The *pīḍha* roof begins at the end of six *sūtras*. The lowest *pīḍha* projects from the wall by two *upabhāgas*. The wall should have a depth of three *upabhāgas*. The *śālābeḍha (parikramā)* is of four *upabhāgas*. The pillars are two *upabhāgas* in width, and twelve *upabhāgas* in the middle of the hall form the *salaṅgana*. In its center, of four *upabhāgas* are the *kendragarbha*, from where the height of the structure has to be calculated along the *randhrarekhā* of thirteen *mūlasūtras*, which runs from the *garbhabindu* at the base to the *kalaśa* with the *dhvaja-pīṭhikā* on top.

The pillars should be of very solid stone, and polished. Their height is seven *mūlasūtras*, the *dhāriṇī* (lintel) over them three *aṁśas*, which I took to mean *upabhāgas*. But here there is room for only one *upabhāga*. The pillars should be provided with grooves in which to insert strong iron girders or palm wood beams. No other wood should ever be used.

The first course of *pīḍhas* is supported on the wall. It is four *upabhāgas* high and contains five or six layers of *pīḍhas*. Each *pīḍha* is five *upabhāgas* wide towards the hall. From the lowest outermost end to the uppermost inner limit it covers seven *upabhāgas*. To lessen the weight the inner side of the *pīḍhas* is rounded off in the form of waves *(laharas)*.

The *bharati* rests on the pillars and on the first course of *pīḍhas*. It is two *upabhāgas* high and five *upabhāgas* wide. From the outer triangle (the outline of the pyramidical roof) it is recessed by three *upabhāgas*. This *bharati* should be made of strong stones set upright on a base of long horizontal stones.

The second course of six *pīḍhas* is three *upabhāgas* high and eight *upabhāgas* wide towards the center. It is covered by the *mudrā-bharati*, the ceiling *bharati*, which is one *upabhāga* high and covers an extension of sixteen *upabhāgas* across, closing the roof. Its outer ends must stand perpendicular above the pillars. On its lower surface, the ceiling of the hall, it must be decorated by a large lotus flower.

Above this the third course of *pīḍhas* is established, consisting of five *pīḍhas*, of which the first *pīḍha* is laid on the ceiling stone. It is two *upabhāgas* high and eight *upabhāgas* wide. It has *laharas* on the inner side as those described before. The upper side of the *pīḍha*, which has a recess of four *upabhāgas* from the triangle line, has pedestals in the four corners for lions.

The *kaṇṭhadeśa (beki)* is eight *upabhāgas* strong and two *upabhāgas* high. It is made of massive stone and remains uncarved, but has a small channel at the center. The *cūḷadeśa* on top of this is seven *upāṁśas* high and consists of the *garbhapiṇḍi*, the *padmabeḍha* and the *kṣīṇa kaṇṭhikā*. and the *āmalakī*,

the *kharpara* and the *kalaśa*. The uppermost part of the triangle is the place for the *dhvajadaṇḍa*.

ANALYSIS OF THE MAHĀPRAŚASTA *MUKHAŚĀLĀ*

This description of the elevation, although quite consistent in itself and easily drawn according to the text of the *Śilpasāriṇī*, appears far from convincing. There cannot be any doubt that this *mukhaśālā*, which is called a Mahāpraśasta refers to the Sūrya temple of Koṇārka as much as does the ground plan. But when we think of that powerful structure, this elevation looks woefully weak and its height far too little. It shows the proportion between wall and roof to be 6:7, while on any photograph taken from some distance the proportion never appears to be less than 6:10 or 6:11, and as such it appears also on the drawing of the palm leaf manuscript. M.M. Ganguly, in his *Orissa and her Remains*, gives the height of the wall as 39′ 10″ against the height of the *pīḍha*-roof upto the *amla* of 71′ 10″. With the addition of the *kalaśa* it would work out approximately at a proportion of 6:10. Another fundamental mistake appears in the thickness of the wall, which is given as of merely three *upabhāgas*, while on the ground plan it is twice that width, namely three *mūlasūtras*. A third mistake seems to be in the degree of the slope of the roof deriving from the reduced height. The angle of the pyramid of the roof which here is about 80° is far too wide. On the photographs, it shows an angle of not more than 70°. From these initial mistakes all others have apparently arisen. I have tried, by just amending a few figures and without changing anything in the text of the *Śilpasāriṇī*, to obtain a better result: the wall is given a width of three *mūlasūtras*, which adds six *mūlasūtras* to the base of the *pīḍha*-roof. Putting upon this broader base a pyramidical roof with an angle of 70°, we obtain the proportion of 6:10 between the wall and the *pīḍha*-roof. All courses of *piḍhas* become higher and their horizontal extension also is increased. The first course of *pīḍhas*, instead of four, is six *upabhāgas* high; the height of the first *bharati* is three *upabhāgas* instead of two. The second course of *pīḍhas* is five instead of three *upabhāgas* high, and the *mudrā-bharati* two instead of one. Naturally, the width of the *pīḍhas* is increased, by three, two, and one *upabhāga* respectively, and so are the lower *bharati* and the *beki*. The greater height of the first *pīḍha* allows also the *dhāraṇī* above the pillars to be made higher, three *upabhāgas* as mentioned in the text. Considering the enormous iron girders which these lintels had to keep in position between their upper and lower parts, this height does not seem excessive.

The whole structure gains, in this way, apart from a truer height, an appearance of far greater strength and stability.

HORIZONTAL DIVISION OF THE MAHAPRAŚASTA *MUKHAŚĀLĀ*

For describing the horizontal divisions of the wall, the six *sūtrabhāgas* of the height are again divided into three, and thus eighteen *upabhāgas* are obtained. The *pañcakarma* above the plinth occupies five *upabhāgas,* the lower *jaṅghā* has three and the *bandhanā* two *upabhāgas.* The upper *jaṅghā* again has three *upabhāgas* and the *ūrdhva bandhanā* or *meḷāna* has five.

After fixing the divisions, the sculptural features are described: the *pañcakarma* is divided into three sections or *pratyaṁśas.* The *khura* and the *kumbha*-belly are two, the *kaṇī* and other elements, *paṭṭī vasanta* are the third. The *jaṅghā* has a small *śikhara* whose lowest part is a plinth or *māraṇi.* Then it has two small pillars *(jaṅghā-khumbis)* and a *pīḍha* roof of three *upāṁśas.* The *bandhanā* has three moldings within two *upabhāgas:* above and below a *paṭṭī* (band), and in the middle a *kaṇi* or a *bala* (roll molding). The upper *jaṅghā,* like the lower one, also has a niche for images, with a plinth below, small pillars on both sides and a *pīḍha*-roof above. The *meḷāna* or *bhitti bandhanā* has, within its five *upabhāgas,* ten horizontal courses. The lowest is in the form of a plinth *(pāda)* and the uppermost is a band *(paṭṭī).* The eight courses in between have alternating *pheṇis* (cyma reversa) and *phulis.*

The lower surface of the *pīḍha*-roof projecting from the wall should never have any decoration; neither should the walls inside the hall. Only, at the height of three *mūlasūtras* they should have a cornice *(dhāra)* running around with hanging *candrikās.* (*Candrikās* are ornamental motifs in the form of the eyes on peacock feathers.)

The inner wall above the door should have a triangular corbelled opening, reaching into half the depth of the wall.

The pillars are seven *sūtras* high, their middle part two *aṁśas.* They are without any ornamentation and have only projecting profiles *(aṁśas).* The lowest part is a *pīṭha* (pedestal) of one *sūtra;* the shaft above that is of two *sūtras.* A *bandhanā* of one *sūtra* projects in the middle of the pillar. Above the *bandhanā* another shaft of two *sūtras* as the one below, above that the head (capital) of one *sūtra.* The base, the *bandhanā* and the head project only slightly from the shaft. The edges of the shaft are bevelled. The *dhāraṇī* (lintel) above is made in two parts, a lower stone with a groove

and an upper stone with a groove between which the iron girder or palm trunk has to be inserted.

Inside the hall the corbels are in the form of *pheṇis,* one above the other; the *bharati* is made flat and even, as if of one piece. Along its upper and lower inner rim it has two cornices decorated with rows of *candrikās,* the lower one turned upwards and the upper ones turned downwards. The ceiling has on its lower surface a large lotus of sixteen petals. In its middle it has a circular mold in the form of an *āmalakī garbha,* from where hangs a drop *(jhara)* in the form of a lotus bud.

ANALYSIS OF THE MAHĀPRAŚASTA *MUKHAŚĀLĀ*

Although in general correct, a few small rectifications ought to be made with respect to the proportions between the various elements of the wall. The *pañcakarma* with five *upabhāgas,* the *bandhanā* with two *upabhāgas* and the *meḷāna* with five *upabhāgas* claim too much space at the cost of the lower and the upper *jaṅghā,* for each of whom only three *upabhāgas* are left; this is not in accordance with the distribution of parts on the Koṇārka temple. If the *pañcakarma* and the *meḷāna* are each reduced by one half *upabhāga* and if the *bandhanā* is reduced by one *upabhāga,* then four *upabhāgas* each will remain for both *jaṅghās,* which is more accurate in view of the divisions of the Koṇārka temple. At the same time the ten bands of the *meḷāna* will be somewhat reduced in width and come nearer their actual size in proportion to the *pīḍhas* just above them.

VERTICAL DIVISIONS

Beginning again from the *koṇaka,* the text proceeds to the vertical divisions in the wall. Many items already described in the horizontal divisions are repeated, the others are described in greater detail, and the differences between the elements of this wall-work and that of the Saumyabhadra *mukhaśālā* are also mentioned. Thus for example:

The *koṇaka* of the Mahāpraśasta should have no *śikharas* as the *koṇaka* of the Saumyabhadra, but a long, triple-edged, pillar-like form, with a *pañcakarma* at the base, and a *bandhanā* in the middle. The *anartha* has no *pañcakarma* at the base, as has the Saumyabhadra but a *thya śikhara,* which means a conical *śikhara* with upright ribs, instead of horizontal *bhūmis.* The construction of this *ṭhiā śikhara* or *tuṅga śikhara* is described with the help of another grid.

In the upper *jaṅghā* a small *śikhara* should be made with a *pīḍha*-roof placed on pillars, which form a niche. The niches on both the *jaṅghās* are meant for images, the upper ones for images of Dikpālas, the lower ones for their Śaktis.

Also the *pratirathas,* which frame in the *anartha śikharas,* are described in detail. They are in the form of double pillars, of which one should be a simple shaft, decorated with creeper ornaments and having a *mohanti* and other elements, a projecting band and a capital, on top; the other pillar should be adorned with figures and *vajramastakas.* Various Puranic and worldly images may be carved on this pillar. The text emphasizes again how very important it is to set off clearly from one another the two groups of *anarthas.* The deep recess between them has two front parts which are narrower and one part in depth which is broader and reaches the *achidra-bhitti.* Here *virāla* figures or *kautūhalas* should be placed in the lower *jaṅghā,* and *mithunas* in the upper *jaṅghā.* The other two slabs are adorned with various creeper ornaments. The *bandhanā,* which on all four sides is made with *pāda, kaṇi* and *paṭṭi,* has at intervals small upright niches with standing female figures. (The *bandhanā,* as a matter of fact, has five courses and in the upright bands which articulate it, there are no figures, only creeper ornaments.)

The *rāhā* is made according to the rules given for the Saumyabhadra and also the *meḷāna.*

MAHĀKAILĀSA ELEVATION (Fig. f)

In order to explain the Mahāpraśasta Pañcaratha *prāsāda,* the *Śilpasāriṇī* refers the reader to the Mahākailāsa Bhadrapīṭha *prāsāda* described by it earlier and limits itself to point out the few elements in which they differ from one another. Therefore, it is necessary to give a short description of the Mahākailāsa temple, whose most conspicuous example is the Liṅgarāja temple in Bhubaneshwar. It is very exhaustively described with the help of a grid: The temple is to be built on a *bhadrapīṭha.* After fixing its height, one third part of the *pīṭha* will be taken as the *mūlasūtra.* Note that the *sthāpaka* here appears to be adopting the lowest type of *mūlasūtra;* however, as this is a very important temple, it may be presumed that the terms *uttama, madhyama* and *adhama* do not involve any qualification, but are perhaps just convenient terms for distinguishing different methods of fixing the *mūlasūtra.*

But one puzzling question remains: since the Liṅgarāja temple has

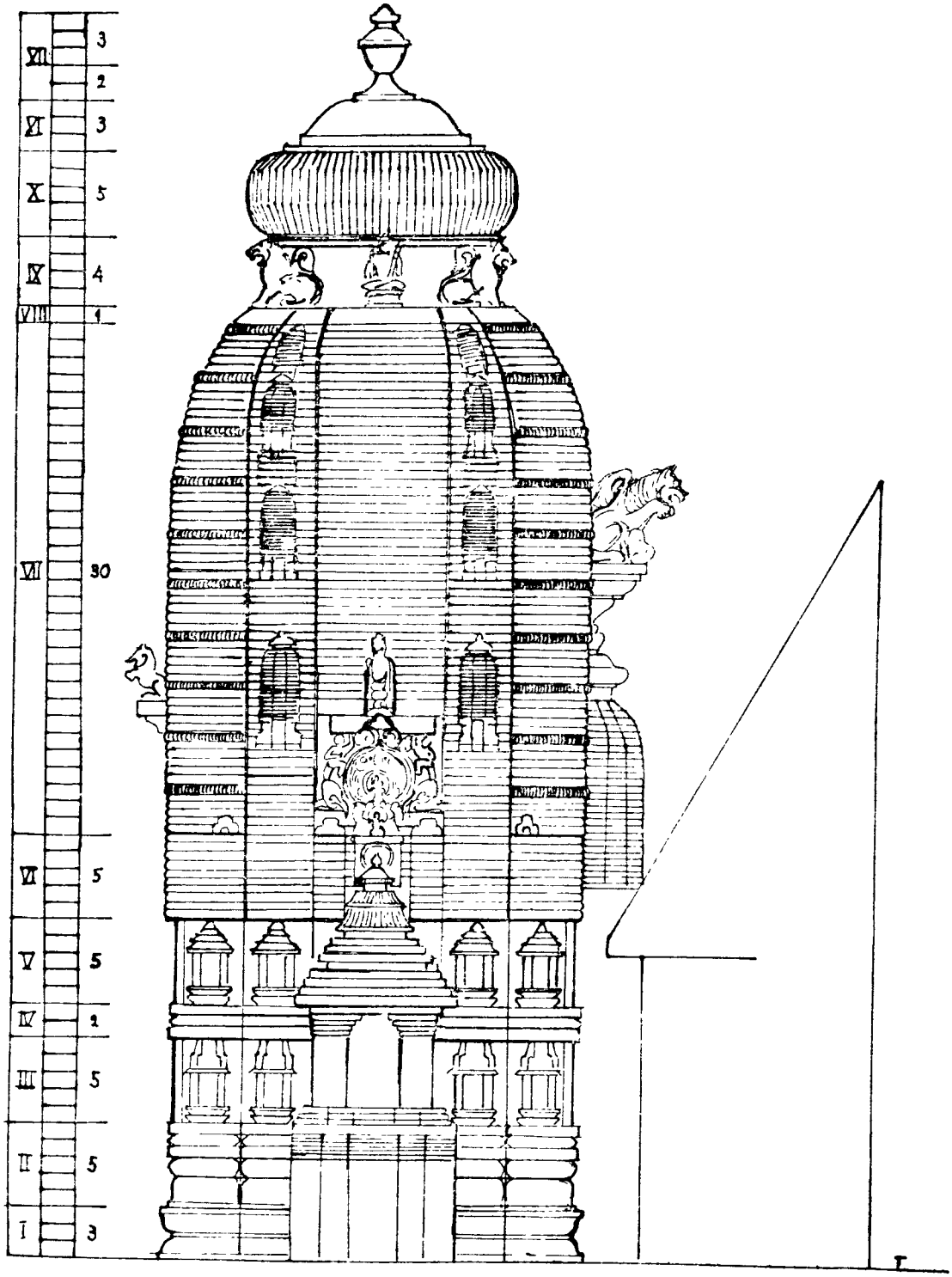

Fig. f. Mahākailāsa elevation according to the Śilpasāriṇī

no plinth on which the *mūlasūtra* is supposed to have been based, unless this plinth should have disappeared under the pavement in the course of centuries, on what did the architects establish their *mūlasūtra?*

All proportions are scrupulously established according to one basic measurement. The *pīṭha* has within its three parts five elements: *paṭṭi, padma, kaṇi, padma, paṭṭi.* The *pañcakarma* occupying five *bhāgasūtras* has five elements: *khura, kumbha, kaṇi, bhūmi, vasanta.* The lower *jaṅghā* has also five *bhāgas* and five elements: *śikharapīṭha, stambha, pīṭhikā* and *cūḷa* etc. The *bandhanā* has two *bhāgas* and three equal elements: *pheṇi, phulli, pheṇi,* and in the middle a small niche. The upper *jaṅghā* is, like the lower, in five parts and five elements. The upper *bandhanā,* the *meḷāna* of five *bhāgas* has ten elements, *pheṇi* and *phuli* alternately. The *koṇaka* is built up in ten divisions. Each division is of three *bhāgasūtras.* The *viṣama* is of one *sūtra.* The *beki* is of four *sūtras* and has four elements: *dhāra, beki, siṁha, baiṭhi.* The *āmalaka* is of five *sūtras* and has three elements: *dhāra, āmalaka, ūrdhva-dhāra.* The *khapurī* is of three *sūtras* and has two elements: *dhāra* and *khapuri.* This is the topmost part of the *garbha.*

The foot of the *kalaśa* is of two *bhāgas* and the body of three *bhāgas.* The whole *kalaśa* has six elements: *pāda, garbha, dori, saraba, bala* and *dhvaja-daṇḍa.*

All these elements added together are more than one hundred. The *mūlabhāgas* are seventy-three, and the big divisions are twelve.

This is called a *pañcaratha* temple. Then the text proceeds to describe the other parts:

The *koṇaka deśa* above the upper *bandhanā* at the edge of the *śikhara* consists of lines or flat bands only. The *anartha* has four *śikharas* or *rathakas,* of which the first measures four *bhāgasūtras,* the second three, the third two and the fourth one *sūtra* only. (Here evidently double *sūtras* are meant, because ordinary *sūtras* would not fill that space; they are perhaps what are sometimes called *mukhya-bhāgas.*)

In front of the *rāhās* on the side and the back there are *niśā* temples on high plinths, with niches containing images on the level of the lower *jaṅghā.* They should reach to the limit of the lower *bandhanā.* The *śikharas* of these temples should reach to the limit of the upper *bandhanā.* Above that is a *vajramuṇḍi* of six *bhāgas,* and in the next six *bhāgas* there are projecting lions. Eighteen *bhāgas* remain for the beautiful upper part of the *rāhā.* The whole *rāhā* has thirty *bhāgas* like the *koṇaka* and the *anartha.* The *koṇaka* has five *bhūmis* below each *āmalakī.* Where in the *koṇaka* there are five *bhūmis,* there are ten in the *anartha śikhara.* In the upper parts the *bhūmis* become still narrower.

In the *rāhā* the *bhūmis* can be fashioned according to wish. On the sides and the back the projecting lions reach up to the twelfth *bhāga*. But on the front there is a *gaṇḍī- śikhara* reaching to the height of these lions. Above that there is a plinth, a *piṇḍi* of two *mukhya-bhāgas*, on which a lion of big size is placed. When the lions on the sides are of six *bhāgas*, the one in front should be of twelve *bhāgas*. A *gajasiṁha* should be placed on the beautiful Kailāsagarbha. (The *gajasiṁha* will certainly be there, but the size of twelve *bhāgas* would be too much, even for the colossal lion of Koṇārka.)

On the *beki* there are lions and Bhairavas. Detail work the artist should do as is most appropriate. In the small *śikhara* in the wall-portions of the *anarthas*, Dikpālas should be placed in the lower and other images in the upper row. In the recesses between the *pāgas* Virājas should be placed in the lower and Nāginīs in the upper *jaṅghā*. Various other sculptural work should be done from the plinth to the *kalaśa*.

This is the *pañcaratha* temple known as the Mahākailāsa.

The measurements and proportions of the Mahākailāsa temple given in this chapter seem on the whole to be correct and in accordance with those found on the Liṅgarāja temple. The *vimāna* has a height that is about three times its width, and the lower part with *pīṭha, pañcakarma* and *jaṅghā* is half the height of the *śikhara* with the *bekī*. The height of the two *jaṅghā* parts alone is the same as that of the uppermost parts, *āmalā, khapuri* and *kalaśa* taken together. In the alternation of horizontal and vertical parts and in their changing measure there is a rhythm, resembling a musical sequence with a live dynamic upsurge. The development of the structure is also like the growth of a tree, which draws the eye irresistibly from the base to the summit.

In the bulging horizontal parts of the *pañcakarma* it is as if all the sap and all the energy were collected for the future growth. They produce a first short upward thrust in the lower *jaṅghā* with its vertical form-elements. This is arrested and assembled in the horizontal courses of the lower *bandhanā* and again projected upwards by the verticals of the upper *jaṅghā*. It comes to rest for a while in the broad upper *bandhanā*, where it gathers strength for the final colossal vertical jet of the *śikhara* whose height is twice the height of all the lower parts, base and wall taken together.

The small *anartha śikharas*, which grow out of one and other, give, by their progressive diminution the illusion of forshortening through a mighty distance, and by doubling the frequency of their *bhūmis* they create an impression of great quickening in the upward thrust. Thus the *śikhara*

may appear even higher than it is in reality. On the other hand its upward surge is supported and sustained by the innumerable horizontal *bhūmis* that form its surface, and also by the small *āmalakīs* at the corners, that articulate the ascent in rhythmic cadences.

The upward movement finally subsides into the curve at the shoulder of the temple, and is collected into the circular body of the *beki,* where it comes to rest. From there it is transformed into an expanding bloom in the form of the *āmalaka,* the thousand-petalled lotus, the head and crowning of the temple.

PAÑCĀBJAGARBHA ELEVATION

The *garbha* which has a Mahāpraśaṣṭha *mukhaśālā,* based on a *yantra* of five lotuses, is here also called Pañcābjagarbha. Its *śikhara* has the same elements as the Mahākailāsa *śikhara,* but its *mūlasūtra* should be increased by one half part. The result is, that this *garbha mandira* becomes larger. (That means that if the *mūlasūtra* of the Kailāsa temple is known, the height of the Pañcābjagarbha could be calculated with a fair degree of correctness.) Also the *niśā* temples have to be much bigger and are not simple *maṇḍapas* on pillars, but have wall-work containing all elements of the big temple, as mentioned in the description of the ground plan.

What distinguishes this *śikhara* mainly from that of the Mahākailāsa, is that the *koṇaka* of the wall part is made like that of its *mukhaśālā,* that is, with three vertical ridges formed by two recesses. It has two *anarthas* on every side. The *pañcakarma* in the lowest part should have many skilful works. (This perhaps refers to the small inset figure sculptures, which are its special connotation.) The *jaṅghā* should be done as that explained before (in the Mahākailāsa temple). The *śikhara* has three ceilings and three courses of corbels *(laharas).* The first ceiling is at the place of the *rāhā-siṁha* (in front), the second one is at the *viṣama* and the third at the *kharpara* (over the *āmalakī*). On all four sides there should be lions on the *rāhā.* The lion on the front *rāhā* should be higher up, above the *sandhi-śikhara.* This *śikhara* projects from the front by two *sūtras.* The *kharpara* on the *āmalaka* should be in form of lotus petals. The *kalaśa* and all parts that are in form of lotuses should be made larger by one *sūtra* than those on the Kailāsa *śikharas.* The *śilpis* are praising this temple as the Sūrya Vallabha *prāsāda* (the temple beloved of Sūrya).

UMAKANT P. SHAH

BEGINNINGS OF THE SUPERSTRUCTURE OF INDIAN TEMPLES

(Plates 7 - 14)

In 1930 Coomaraswamy published a very thought-provoking essay on early Indian architecture[1] in which he discussed, among other things, the construction of *bodhigharas,* relying on the earliest available literary sources and the archaeological evidence available to him. Students will not only always remain indebted for the extensive data gathered by him from reliefs belonging to the early Indian school of sculpture, but also for the copious illustrations including photographs, plans and drawings of early Buddhist shrines dating from about the second century B.C. to the third century A.D.

In his masterly work on Yakṣas,[2] Coomaraswamy studied platforms placed under trees and dedicated to Yakṣas and Nāgas as well as *caityas* or *yakṣacaityas.* He also utilised, for the first time, the Jaina description of the *caitya* dedicated to the Yakṣa Pūrṇabhadra. I have myself shown how this description has been understood by commentators as a stock description *(varṇaka)* of the *yakṣāyatana;* I have also discussed the early Jaina evidence on Yakṣa worship and the evolution of *caityas, yakṣacaityas,* and *āyāgapaṭas* (referred to in Jaina canonical works as *śilāpaṭas*).[3]

Ancient Yakṣa shrines consisted of a gently tilted slab placed under a tree on a *simhāsana* and can be compared with representations from Bharhut and other sites.[4] I have pointed out earlier that the Jaina description of the *pṛthivīśilāpaṭa* as shining like a mirror and soft to the touch like butter, of black and other colors, suggested that *paṭas* of this type were made of

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1 *Eastern Art* II (1930), pp. 225-235.

2 *Yakṣas,* Washington 1928, 1931.

3 *Journal of the Oriental Institute* III, No. 1, and *Studies in Jaina Art,* Banaras 1955.

4 See Coomaraswamy, *Eastern Art* II, Fig. 22. Coomaraswamy also notes their similarity to the Buddhist *vajrāsana.*

earth and that this description referred to the finely glazed ceramic of the time of the Buddha and Mahāvīra.[5]

The interpretation of Professor V.S. Agrawala, that this was a *śīlāpaṭa* dedicated to Pṛthivī or a Mother Goddess, is not acceptable: the Jaina description expressly refers to *yakṣacaityas* dedicated to Yakṣas like Pūrṇabhadra and Maṇibhadra; hence this *śilāpaṭa* was the *paṭa* of the Yakṣa of the shrine. Further, a detailed analysis of the text passage clearly shows that the highly polished *paṭa* had representations of creepers, animals etc., and was not only black but also in other colors. Those who re-edited this canonical passage in the Valabhī council of the fifth century and those who copied it from generation to generation had no knowledge of the ancient glazed wares and could not fully understand the description; they could therefore not edit the passage satisfactorily and understood it as a slab dedicated to Pṛthivī, the Mother Goddess. Were it a stone slab dedicated to Pṛthivī, it could not have been of varied colors which would be possible if it were a *śilāpaṭa* made of *pṛthivī* or clay. The different shades of colors developed in firing may have suggested such a description.

Thus, the available evidence would indicate that the *yakṣa-* or the *nāga-caitya* of the age of Mahāvīra consisted of a slab on a platform, placed adjacent to the trunk of a *caitya* tree. There is no reference to a structure over it in the description obtained in the *Aupapātikasūtra* and the *Rāyāpaseṇiyasūtra* of the Jainas.

The Pūrṇabhadra *caitya* was in a park called the Āmraśālavana, situated to the north-east of the city of Campā. It is described as being very old in age *(cirātīta, porāṇa)*, recognized by people of old, ancient, famous, praised everywhere and *jñāta* (of the Jñātṛ sect or people?). It was decorated with one or many umbrellas, with banners, flags surmounted on flags *(atipatākās)*, whisks or brushes of peacock feathers *(lomahatthaga)*; it also had a railing *(vitardikā-vedikā)* according to the commentary of Abhayadeva or according to an alternative meaning contained a sacrificial altar; the floor inside was coated with cowdung and the surfaces of the wall were polished by rubbing with cowries; it bore palm impressions in red *gośīrṣa* or *dardara* sandal; was adorned with *candanaghaṭas* (auspicious jars); entry was provided through *toraṇas* with *candanaghaṭa* decorations; garlands were hung . . . many people visited the shrine . . . *(Aupapātikasūtra, sūtra 2)*. Around the *caitya* was a grove of trees *(vanakhaṇḍa)* with

[5] *Studies in Jaina Art*, pp. 67 ff.

a large central *aśoka* with a *pṛthivīśilāpaṭa* which was slightly inserted into (attached to) its trunk *(īsim khandhasamalline)*.

As to the plan of the *caitya,* the text says nothing, possibly because one or two passages are missing. The reference to entrance doors with *toraṇas* indicates that the *caitya* had more than one in each direction, and was walled.

It is of course possible that the earlier Yakṣa shrine was a simpler building without railing, entrance doors or *toraṇas.* What is noteworthy is the description of the shrine as already "existing of old" in the age of Buddha and Mahāvīra (early fifth or late sixth century B.C.) and that Mahāvīra used to visit such shrines. It must also be remembered that the *Aupapātikasūtra* calls it a *devayaṁ ceiyam,* obviously distinguishing it from the *vṛkṣacaitya* (or *caityavṛkṣa*) and *maḍagaceiyas* or funerary shrines.

The *caityavṛkṣa* (the tree of worship) and the *vṛkṣacaitya* [the *caitya* (piled platform) with the sacred tree] had only a platform below or around and was generally enclosed by a square or circular railing. Ancient *vṛkṣacaityas* are found represented on seals, coins etc. An early example, of *c.* second-first century B.C., is depicted on a relief from Mathura illustrated by Professor Agrawala.[6]

Pl. 7 probably a relief from Mathura, shows an example without a railing, which continues an early type of *devayaṁ ceiyam.* On one side of the central tree is a *śilāpaṭa* with footprints and a standing worshipper, and on the other is a monk seated by what is probably a *sthāpanā,* suggesting that the shrine may be in memory of a departed Jaina monk or a Tīrthaṁkara. A Śaiva shrine with a Śiva Liṅga below a tree instead of a *śilāpaṭa* is obtained on a lintel of the early Kuṣāṇa age from Mathura (Pl. 8). It has a railing on all sides but no roof.

The Mathura relief now in the Boston Museum, first illustrated and described by Coomaraswamy, represents a more advanced architectural conception than what is depicted in Pl. 7 or described in the *Aupapātikasūtra.* Here the sacred tree is enclosed by a structure supported by pillars and entered by an arched doorway. According to Coomaraswamy, this is a square *bodhighara* with heavy corbelled roof.[7] It is not clear from the illustration if it was provided with walls.

These *yakṣacaityas* were open to the sky and the Jaina description

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[6] *Evolution of the Hindu Temple and Other Essays,* Varanasi 1965, frontispiece.

[7] *Eastern Art* II, pp. 225 ff., Fig. 23; *History of Indian and Indonesian Art,* New York 1965, Pl. XIX, Fig. 70.

does not mention any superstructure nor is one to be seen in Pl. 7. It may be therefore concluded that this tradition of about the sixth century B.C. lingered on up to the age of the Mathura relief which is datable to the first century B.C.

A further stage in the evolution of such shrines can be conjectured from the descriptions of Kṛṣṇa's umbrella in the Jaina *Praśnavyākaraṇasūtra* 3rd *dvāra, sūtra* 15. I have shown elsewhere that the elaborate decoration including foliage motifs, auspicious marks and *daṇḍa* and *pratidaṇḍa* supports clearly suggest that the author had stone umbrellas and the small cellas of the Kuṣāṇa period in mind.[8] Thus circular or square stone umbrellas, supported by one central and other terminal staffs, probably covered the *yakṣacaitya* or the *devayaṁ ceiyam* and also Buddhist or Jaina shrines. This would be a stage corresponding to and continuing later in the flat-roofed shrines at Sanchi and other places. These earlier types lingered on with some innovations, along with more developed types in later periods.[9]

Such shrines could be circular or square. Memorial structures of these shapes have been referred to as *śmaśānas* in the Śatapatha Brāhmaṇa;[10] the *Viṣṇudharmottara* calls them *aiḍūkas*.[11] The Śatapatha Brāhmaṇa calls them *daiva* (when square) and *āsura* (when circular).

Of circular *caityas*, we have evidence of a very early example discovered during the excavations at Bairat, and another, possibly slightly later example is the famous brick structure known as Maniyar Math at Rajgir, which in its present state is the result of several stages of construction. Coomaraswamy published a small relief fragment from Amaravati showing a circular *caitya*, along with a drawing of the restored structures.[12] It may be noted that the tradition of circular secular structures exists from chalcolithic times and survives to this day in different parts of India.

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8 "A Note on Stone-umbrellas from Mathura," *JUPHS* XXIV-XXV (1951-52), pp. 205-208.

9 Cf. for example, the Liṅga shrine at Mahakut near Badami; drawing in Kramrisch, *The Hindu Temple*, Vol. I, Calcutta 1946, p. 81.

10 *Sacred Books of the East*, XLIV, pp. 429-39.

11 Priyabala Shah, "Aiḍūka," *JOI* I, No. 3 (1951-52), pp. 278 ff. It may be noted that the term *aiḍūka* is of Dravidian origin and is derived from either *iḍu* "to lay at rest," or *eḍu* "to build," "pile up."

12 *Eastern Art* II, Pl. CXXXII, Figs. 31, 34. It may be noted that captions on the figures contain two errors: that on Fig. 31 says Mathura in the place of Amaravati, and that on 34 describes the figure as a restoration of Fig. 32 instead of Fig. 31.

Coomaraswamy also published two sides of a votive column from Amaravati (*cetiya khabha* according to the inscription)[13], on one of which is a domed shrine, obviously circular, and containing an altar on which is an indistinguishable object, perhaps a reliquary. Supported on large pillars, and surrounded by a small railing, the dome of this shrine rises, first in a straight line above the pillars for some height after which it begins to curve. Running around the tops of the pillars is a flat band above which rises a small storey with *gavākṣa* or *caitya* window openings on top of which is another band surmounted by rafters. The dome itself bears *caitya* arches. What is especially noteworthy is the conception of an upper storey and a dome with these openings.

Another two-storeyed shrine, but with an oblong roof of the *gajaprṣṭha* type, and dating from about the first or second century B. C., is represented in relief on a stone slab from Jaggayyapeta (Pl. 9). The ground floor shows an altar with a *śilāpaṭa*. A single *caitya* window ornament is placed on the longer face of the oblong roof. Two *caitya* arches are to be seen below. They are located between two bands of railings and separated from each other by closed *jālaka* of railing pattern.

This building may be compared with the main shrine at Gop, Gujarat (H. Cousens, *Somanath and other Mediaeval Temples in Kathiawad,* Calcutta 1931, Pl. XXVII), where over the straight high wall of the shrine rises the spire with two *caitya* windows in the first tier and one in the second. Obviously, shrines like the Jaggayyapeta example (Pl. 9) are the prototypes further elaborated in shrines like the one at Gop. It is now well known that the Gop shrine is not later than the early sixth century A.D. The Jaggayyapeta prototype dates from *c.* second-first century. B.C. and the Gop shrine cannot be much further removed from its prototype. Since the recent discovery of the highly developed sculptural art datable to the second half of the fourth century A.D. at Devnimori one may even consider the possibility of the Gop shrine belonging to the Kṣatrapa art traditions of the fourth century. The sculptures on the socle of the shrine (Pl. 10) are much worn out, but viewing them in the context of the local style, they may even belong to a period not later than the fifth century

[13] *History of Indian and Indonesian Art,* Pl. XXXIV, Figs, 144, 145 and p. 239. Describing these figures, Coomaraswamy writes: "The first showing a *dhamma-cakka* with an empty *āsana* in front of it, probably representing the first sermon; the second a domed shrine, containing a reliquary on an altar . . ."

A.D.[14] Especially noteworthy in this connection is the standing male figure in the right corner of Pl. 10 which reminds one of the modelling of the figures of Kṛṣṇa Govardhanadhara in the Mandor stela, of the two armed Nāga at Kanheri and the *dvārapālas* from Udayagiri. It is possible that the Gop temple was renovated and/or enlarged at a later date, but as far as the evolution of the *śikhara* is concerned it is reasonable to believe that the type had already evolved and become popular in the Kṣatrapa and Kuṣāṇa age in western and northern India[15] and was derived from prototypes in Mathura, Sanchi, Bharhut, Jaggayyapeta and other sites of the second and first centuries B.C. These were the periods of experimentation in the evolution of temples and their *śikharas*. For still earlier periods we do not have enough archaeological evidence, but looking to the great artistic activity of the age of Aśoka, we can safely include the third century B.C. in this period of experimentation also.

A relief from Bharhut, for example, reproduced in Coomaraswamy, *Eastern Art* II, Fig. 24, depicts a *bodhighara* with three entrances to a rectangular shrine, surmounted by a railing over the entrance arches. The railing was either around a circumambulatory path or a terrace in front of the upper part of the *bodhi* tree, behind which was the barrel vaulted *(gajapṛṣṭhākṛti)* roof with two arched doors visible in front. The tree is shown as going up through an opening left in this roof. Obviously, this is a two-storeyed shrine. The presence of a separate pillar in front *(dhvajastambha)* is noteworthy.[16]

Such shrines, with a ground floor and an upper storey, were very common. Sometimes no arched entrances are shown on this ground floor as at Sanchi (*Eastern Art* II, Figs. 27 and 29). *Eastern Art* II, Fig. 27, shows a wagon-shaped roof, the temple itself appearing to be eight-cornered and

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[14] It is not possible to postulate a very great time lag between the Jaggayyapeta *bodhighara* (Pl. 9) and the Gop shrine. The important step forward is the construction of a stepped pyramidal roof, each stage symbolizing one upper storey of smaller dimension with a *nāsikā* or *caitya*-window ornament in front. Upper storeys, with a railing in front, begin to be reduced in dimensions from at least the period of Stupa I at Sanchi (*Eastern Art* II, Pl. IX).

[15] A recent survey of the Gop shrine by Dr. R.N. Mehta, to whom I am thankful for this information, has yielded more proofs that support a date in the late Kṣatrapa age. This exploratory survey was done after this paper was discussed in the Seminar. The results are likely to be published shortly.

[16] Coomaraswamy calls it an "apsidal *bodhi-ghara*," but it could well be rectangular in plan with a vaulted roof on the upper storey.

similar to Coomaraswamy's Figs. 28 and 36 illustrating the visit of Aśoka.[17] Though octagonal in plan it is a different type of structure, having on its back a rectangular interior room projecting on the left side. *Eastern Art* II, Fig. 29, depicts a *bodhi* tree shrine, the tall pillars, with *pūrṇakumbha* bases supporting the upper floor. The vaulted roof with three arched doors in front may be noted.

With this type of shrine having an open *maṇḍapa*-like ground floor (rectangular, octagonal, circular or square) may be compared representations on Audumbara coins of *c.* first century A.D. Coomaraswamy, *History,* Figs, 116, 117, illustrates two such coins found from Pathankot or Kangra. Fig. 116 was described as having a railed (circular?) pavilion with four pillars and domed (thatched?) roof with projecting eaves on the obverse,[18] while Fig. 117 has five pillars and a small *śikhara*, reminiscent of south Indian forms, above a similar roof.[19]

Another variety of these shrines, almost contemporary with the above, is to be seen on several Audumbara coins (Allan, *Catalogue of the Coins of Ancient India in the British Museum,* London 1967, Pl. XV, Figs. 2, 4, 5, 9 and 10). These represent rectangular structures with an upper storey, probably also without walls, and covered by a terrace which seems to preserve traces of the *caitya* arch motif (*ibid.*, Pl. XV, Figs. 4, 2, 9). An additional feature of these structures is a pavilion above the first storey, reminding one of the *gandhakuṭī,* and having a roof of umbrella (*ibid.*, Pl. XV, Fig. 9) or *gajapṛṣṭha* (*ibid.*, Pl. XV, Figs. 10, 2) shape. In *ibid.*, Pl. XV, Fig. 4, one notices a finial above; in *ibid.*, Pl. XV, Fig. 10, it seems to have a *caitya* arch shape. The free-standing pole with a trident top alongside the shrine in *ibid.*, Pl. XV, Fig. 9, would suggest that it was dedicated to Śiva. There are traces of a similar pole and a snake-like line (generally interpreted as a river) below the shrine on the coins reproduced in *ibid.*, Pl. XV, Figs. 2, 5, and

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[17] The structure, with possibly three storeys (including the ground floor), from Sanchi Stupa I, west gate, represents, according to Coomaraswamy, an "apsidal *bodhi-ghara.*" I find it difficult to say if this is correct.

[18] Cf. V.A. Smith, "Numismatic Notes and Novelties" *JASB* LXVI (1897), Pl. I, No. XII.

[19] The small temple, depicted near the descent of Gaṅgā sculpture at Mahabalipuram (*History of Indian and Indonesian Art,* Fig. 198), should be compared with this type. Especially comparable with *ibid.*, Fig. 117 is *ibid.*, Fig. 200 showing the Draupadī Ratha at Mahabalipuram, which was certainly derived from Toda and other huts with thatched roofs.

it is highly probable that here we get for the first time representations of Hindu temples dedicated to Śiva.

That Hindu temples with spires, roofs, and storeys must also have existed contemporaneously with Buddhist *bodhigharas* stands to reason, since followers of different sects could be expected to compete with each other in incorporating and assimilating new elements into their own practices.

Fortunately we have another evidence for the growth of such rectangular shrines in a terracotta plaque preserved in the Patna Museum (Pl. 11). Here the entrance was made in the narrower wall, as is the case in the *caitya* halls of early Buddhist caves. The Patna Museum shrine is three-storeyed and with barrel-vaulted roofs. The entrance doors of the first and second storeys have elaborate *caitya* arches. Whether there were more storeys is uncertain because the upper portion of this plaque is mutilated and lost. I feel quite certain that each upper storey became progressively smaller in length or size. The various shapes of later spires developed from such prototypes.

Another interesting example of a building with diminishing storeys is found on a relief from Ghantasala now in the Musée Guimet (Pl. 12). The lower part, possibly the ground floor of this shrine which is circular in plan, is lost. It dates from the late second or first century B.C. While on the one hand this experiment led ultimately to the evolution of the Nāgara *śikhara* type, the doors of each storey being omitted, and the arches of each storey surviving in an ornamental form, it also led on the other hand to the pyramidal roof types of the South. The superstructure of the Ghantasala relief seems to be octagonal in the middle storey and hexagonal in the top storey. The relief is a very important document in the history of the superstructures of Indian shrines.

That similar structures, which help us in inferring the different stages of the evolution of superstructures during the Kṣatrapa and Kuṣāṇa periods in north India, were in existence is quite obvious. It was certainly the heritage of the Kṣatrapa age which led to the developments at Gop, Pindara (R. Subrahmanyam, "Piṇḍārā and its Antiquities," *JOI* XIV (1964-65), pp. 419-439) and later evolutions like the Śiva temple at Khimesvara (Pl. 13).

Another interesting type, already evolved in the first or second century A.D., is depicted on a *toraṇa* architrave in the Mathura Museum (Vogel, *La sculpture de Mathura,* Pl. VII c). It is a tower-like structure with a cupola like the one in the Ghantasala relief (Pl. 12) but instead of the several doors

on each storey, there are only four doors in the four directions on each floor. Square railings also enclose each of the floors which are circular in plan. The two devotees prove that the building was a place of worship *(a daivata caitya)* and not a secular building.

Coomaraswamy has discussed some more specimens (*Eastern Art* II, Figs. 30-33) which he describes as square *bodhigharas* and a walled structure. *Eastern Art* II, Fig. 32, from Mathura, is also noteworthy. These specimens deserve a fresh study to help us in tracing the origins of several later architectural motifs and forms.

This leads us to the consideration of two more representations of the Kuṣāṇa period, hailing from Mathura, one of which is illustrated by Coomaraswamy, *History,* Fig. 69. He describes it as a *śikhara* temple and regards it as a prototype of the early towers in which the reduplication of the main structure is still quite apparent and of which a better example is the Bodhgaya plaque (*ibid.,* Fig. 62).[20]

The tower in the Mathura relief (*ibid.,* Fig. 69) is broader at the base and narrower at the top. The outline is apparently rectilinear but could also be curved towards the top. On at least one of the upper tiers survive traces of the arch motif. The two pillars standing outside the buildings appear to be *dhvajastambhas.*

A very interesting representation of a similar shrine with a superstructure which is broad at the base and narrower at the upper tiers and is surmounted by a rudimentary *āmalaka* and cupola with a *grīvā* in between is depicted on the pedestal of a Buddha image of the Kuṣāṇa age from Mathura, now preserved in the University Museum, Aligarh, illustrated here through the courtesy of Dr. R.C. Gaur (Pl. 14). The shrine, according to him, was probably a representation of the Bodhgaya temple as it appeared in the Kuṣāṇa period.[21] Whereas the *śikhara* and shrine in the Mathura Museum relief (*ibid.,* Fig. 69) are much defaced, this representation is better preserved and shows a railing motif on each floor.

This representation also differs in details from the shrine on the Bodhgaya plaque (Coomaraswamy, *La sculpture de Bodhgaya,* Pl. LIX). Though its age is uncertain, the general conception of a tall spire is common.

My paper endeavors to prove that Nāgara and Drāviḍa superstructures evolved in stages as represented in examples from Bharhut, Sanchi,

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[20] Coomaraswamy called this a *śikhara,* obviously in a general sense denoting the whole superstructure.

[21] Dr. Gaur's paper on this Buddha image is being published in *JISOA,* N. S. II.

Mathura, Ghantasala, Jaggayyapeta; that the beginning of the concept of what is known as Nāgara *śikhara* can now be traced to at least the period between the first and fourth centuries A.D., and that the Hindu temple was not exclusively flat-roofed before the Gupta period as was once maintained.

It must be clear that the period between the second and first centuries B.C. and the first and fourth centuries A.D. was the time when several experiments in religious architecture were made. The concepts of the later evolved northern and southern shrines and superstructures are to be found in various formative stages in this creative period.

It is true that the *śikhara* of the shrine on the pedestal of the Aligarh image is not noticeably curvilinear; but it is also obvious that the superstructure is broader at the base than at the top, that the various *bhūmis* on the superstructure do not follow the south Indian or Dravidian pattern and that the edges of some of them are curved. The *śikhara* of Temple No. 9 at Aihole, treated by Kramrisch as curvilinear in shape,[22] is basically similar to the type on the Aligarh image, though obviously later. Almost all these superstructures are evolved from wooden prototypes whose roofs were made of rafters of wood and of poles and bamboos. Even in some later *śikharas* from north India the curve is not easily visible in the lower storeys.[23] Terms like *veṇukośa*, used for parts of the Nāgara *śikhara* in the *vāstuśāstras*, are based on more evolved types, later in age than the Kusāṇa period. We find the evolved curvilinear northern or Nāgara *śikhara* already at Deogarh, in a fragment at Sarnath and other works of the Gupta age. Now we discover that its beginnings go back to at least the Kuṣāṇa period.

Fundamentally both the northern and Dravidian superstructures have one thing in common though of course they are treated differently. In the evolved medieval northern or Nāgara *śikhara* the various *bhūmis*[24] show a network *(jālaka)* of *gavākṣa* or *nāsikā* motifs, but in the southern types we continue to find ornamental representations of entire doorways surmounted by arches. In the northern idiom arches of various *bhūmis* stand for the various floors the doors of which are so obvious in the Ghantasala plaque (Pl. 12).

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22 *Hindu Temple*, I, p. 183, Fig. d and p. 205, along with fn. 57.

23 Cf., for example, the old temple near the Bindusarovara at Bhubaneswar, *History and Culture of the Indian People*, Vol. 5, Bombay 1966, Pl. I, Fig. 2; Siddheśvara temple, Bhubaneswar, *ibid*, Pl. IV, Fig. 7; Siddheśvara temple at Bahulara, *ibid.*, Pl. XXXIV, Fig. 70.

24 The *bhūmis* are compressed, as it were, only the arches above the door frames being shown; later on, in the medieval period, these arches evolve into a network pattern.

KRISHNA DEVA

BHŪMIJA TEMPLES

(Plates 15-54)

PART ONE: OBSERVATIONS ON THE BHŪMIJA MODE OF THE NĀGARA STYLE

The styles of medieval Indian temple building are classified by some northern Indian texts (like the *Aparājitapṛcchā*[1] and the *Kṣīrārṇava*[2]) as fourteen, and by others (like the *Aparājitapṛcchā* again, but in its second list) as eight: the Bhūmija occurs prominently in both,[3] but stands apart from the others in the distinctiveness of its attributed origin. The others are said to owe their beginnings to various gods, demigods and demons; the Bhūmija, a creation of kings, is on the other hand purely secular in origin[4]. This may indicate that, while the other modes had ancient traditions behind them, the Bhūmija had arisen within the living memory of the compilers and that the favor accorded it by some royal dynast was known.

I. CHARACTERISTICS OF THE BHŪMIJA

The Bhūmija style, first recognized by Stella Kramrisch[5], has certain marked characteristics. The outstanding feature and a cognizance of the style is the *śikhara* which shows four spines *(latās)* with the usual decoration of *caitya* arches on the central *rathas* and a distinctive grouping of miniature *śikharas (śṛṅga)* of diminishing heights on the four quadrants between the *latās,* the number of these miniature *śikharas* varying from three to five rows vertically and five to nine rows horizontally. Decorative in nature, they are called in the texts *kūṭastambha* or *stambhakūṭa,* meaning *kūṭa* (miniature

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1 P.A. Mankad, *ed., Aparājitapṛcchā of Bhuvanadeva,* Gaekwad Oriental Series CXV, Baroda 1950, chapters 103-6.

2 Prabhāshankar O. Sompura, *ed.,* Palitana 1967, 1, 10-1.

3 *Aparājitapṛcchā,* 112: 2-3.

4 *Ibid.,* 105: 27.

5 *The Hindu Temple,* Calcutta 1946, pp. 218-9, 389.

śikharas) resting on pilasters. Another feature of the Bhūmija mode is the presence of a prominent sculptured medallion within a large *caitya* window *(śūrasenaka)* at the base of the *latā* on the three sides, and corresponding to the same feature appearing a little higher up as a *śukanāsa* on the front face of the *śikhara;* the *śūrasenaka* applied on the face of the *śukanāsa* is as a rule larger and more elaborate. The temples of this class are invariably (*nirandhāra,* for a *sāndhāra* plan is incompatible with a Bhūmija *śikhara.* The texts also issue other directives for the style — as in the proportions of the doorway, the *pīṭha* (socle) and in elevational features — which the extant monuments generally follow. The *Samarāṅgaṇasūtradhāra*[6] (abbr. *Samarāṅgaṇa*) and the *Aparājitapṛcchā* (abbr. *Aparājita*)[7] devote a chapter exclusively to a detailed description of the ground plan, elevation and ornamentation of the Bhūmija temples of three varieties of plan, namely, *caturaśra* (orthogonal), *vṛtta* (circular) and *aṣṭaśāla* (of eight *bhadras* or principal offsets). The known examples again follow the texts closely in the varieties of the plan and generally in composition and elevation, but differ in details of measurement and proportion.

II. THE BHŪMIJA'S HABITAT

Mālava, which has the largest concentration of Bhūmija temples, appears to be the homeland of the style. A fair number are found in Rajasthan; northern Maharashtra has many more, and would thus appear to be the style's second homeland. The most distant examples so far known are, in the west, the Gaḷateśvara temple (Pl. 50) at Sarnāl, (Kaira District, Gujarat); and in the east, the Jaina temple (Pl. 51) at Arang, in ancient Mahākośala (Raipur District, Madhya Pradesh). One can naturally expect a style spread over so wide an area to exhibit regional traits, particularly in tracts at a great distance from its center.

III. ETYMOLOGY OF *BHŪMIJA*

Etymologically, *bhūmija* means "earth-born" or "country-born." Stella Kramrisch took the term in the literal sense and interpreted it as the native style of Mālava.[8] This may very well be true, and the *Samarāṅgaṇa,*

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6 *Gackwad Oriental Series* XXV, Baroda 1966, chapter 65.

7 *Aparājita,* chapter 171.

8 *The Hindu Temple,* p. 389.

a Mālava text of considerable literary merit, could have deliberately punned on the word. But since it is also used in the *Aparājita*[9] and in the *Lakṣaṇasamuccaya*[10] compiled outside Mālava, the meaning "country-born" loses its validity. I may mention here that the *Aparājita* has a lengthy discussion on the origin of the fourteen medieval temple types, and while it attributes the origin of temple types other than the Bhūmija to the higher and lower hierarchies of gods and demons Bhūmija is the only mode attributed to human kings. It is, therefore, not unlikely that *bhūmija* might mean "of earthly or secular origin" as opposed to other forms which were believed to have a divine or supernatural origin. The term, however, is amenable to a third interpretation and may mean "born of the storey" since *bhūmi* is an architectural term meaning "storey." This would refer to the storeyed arrangement of the *kūṭastambhas* which is characteristic of the Bhūmija type and will indeed be a more appropriate and convincing interpretation, as has already been observed by me elsewhere.[11]

IV. ANTIQUITY

As regards the antiquity of the Bhūmija mode, the earliest dated examples are the Udayeśvara temple (Pls. 15-18) at Udaypur (Vidisha District, Madhya Pradesh), recorded to have been commenced in A.D. 1059 and completed in A.D. 1080; and the Ambaranātha temple (Pls.29-30) at Ambarnath (Thana District, Maharashtra), dated A.D. 1060. Among the undated temples of the style the earliest is the original nucleus of the Amareśvara temple (Pl. 23) at Onkar Mandhata (East Nimar district, Madhya Pradesh). The relative heaviness of its *vedībandha* moldings and the treatment of its ornamental motifs lead one to assign it to the latter half of the tenth century, and this notwithstanding the fact that among its votive inscriptions, there is one dated A.D. 1063. Although the original

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[9] Probably compiled in Gujarat in the twelfth century. Cf. M.P. Vora and M.A. Dhaky, "The Date of Aparājitapṛcchā," *Journal of the Oriental Institute* IX (1959-60), pp. 424-431; and Dhaky, "The Influence of Samarāṅgaṇasūtradhāra on Aparājitapṛcchā," *Journal of the Oriental Institute* X (1960-61), pp. 226-34.

[10] I am indebted to Sri Dhaky for this information contained in his book under publication, "The Principal Forms of Indian Temple Superstructure," a typescript of which he has so kindly placed at my disposal. I have also benefited from discussions with him on the subject.

[11] Presidential address delivered to the Art Section of the All India Oriental Conference, Srinagar 1961.

śikhara of the temple is lost, its stellate plan and the decoration of the *jaṅghā* with the *kūṭastambha* ornament clearly indicate that the structure is in the Bhūmija manner. Next in age, stylistically, is the Mahāvīra temple (Pl. 43) at Sewari (Pali District, Rajasthan), brought to light by D.R. Bhandarkar and recently re-examined by M.A. Dhaky, who has dated it to *c.* A.D. 1010-20 on the basis of the early form of its lower structure and general morphology[12]. Although the perfect harmony of its brick *śikhara* with the lower structure and the present day unfamiliarity with the Bhūmija mode in the region concerned are arguments in favor of its genuineness, the issue is not free from doubt, since a Bhūmija *śikhara* with six vertical rows of *kūṭastambhas*, though theoretically not impossible, is actually unknown; nor is there any parallel for its *latās* and *kūṭas* being completely devoid of carvings — unless we presume that the original carvings on the brick *śikhara* have been totally concealed under the modern plaster.

V. EPIGRAPHICAL EVIDENCE

The only epigraphical reference to the Bhūmija occurs in the Kaiṭabheśvara temple inscription (dated A.D. 1231) from Kuppatur (modern Kubbatur in Sorab Taluq, Shimoga District, Mysore). While eulogizing the ancient *agrahāra* of Kuppatur the inscription says that within "that village, with Kailāsa, stood the temple of Koṭināṭha, built by Viśvakarmā and carved with complete devotion, planned in perfect accordance with the many rules of architecture and freely decorated with Drāviḍa, Bhūmija and Nāgara."[13] The Kaiṭabheśvara temple is a structure in typical Cāḷukya-Karṇāṭa style of about A.D. 1100, anticipating in many respects the Hoyśala style; and although there may be a distant similarity between the Karṇāṭa and Bhūmija modes in the rendering of the *śikhara* and in the embellishment of the *jaṅghā* with the design of tall pilasters crowned by what looks like a *nāgarakūṭa*, there is nothing characteristically Bhūmija about this type of temple. The inscription only indicates that its composer was a learned person, familiar with the idea that Bhūmija was one of the types of temple architecture. This is not surprising, in view of the fact that by the early thirteenth century Bhūmija was popular in Maharashtra, the

[12] See M.A. Dhaky, "Some Early Jaina Temples in Western India," *Śrī Mahavīra Jaina Vidyālaya Golden Jubilee Volume*, Part I, Bombay 1968.

[13] *Epigraphia Carnatica*, Vol. VIII, Part I, Sorab Taluq, No. 275.

southern boundaries of which are not far from Kuppatur situated in north Mysore. The inference drawn by Acharya and Mankad from this reference that Bhūmija may stand for Besara, is ingenious but not very convincing[14].

VI. THE BHŪMIJA IN *ŚILPA* TEXTS

The oldest *śilpa* text that refers to the Bhūmija is the *Samarāṅgaṇa* (assignable to the first half of the eleventh century); in it the style appears to be so well established and architecturally so mature that one is led to infer an antecedent development of not less than half a century. This is confirmed by the fact that the above work itself calls the Bhūmija type *kramāgata* — well established and traditional.[15] The style may, therefore, have had its beginning sometime in the second half of the tenth century, a date which is also in keeping with the process of architectural development in north India.

Morphologically, the Bhūmija is a novel variation of the Anekāṇḍaka form of the Nāgara *śikhara* and marks the stage when the principle of decorating the *śikhara* with *nāgarakūṭas* became well established. The embellishing of the *śikhara* with *nāgarakūṭas* was in its infancy in the ninth century and attained adolescence by the early tenth; its maturity, therefore, could not have been reached before the second half of the tenth century, a period which witnessed the efflorescence of both the Anekāṇḍaka and the Bhūmija modes.

Fortunately, there exists a Bhūmija temple at Onkar Mandhata in Mālava which is the earliest specimen of the mode so far known and, as stated earlier, assignable to the second half of the tenth century. Since the next known example, the Mahāvīra temple at Sewari in Rajasthan (Pl. 43), is nearly half a century later, the source of the Bhūmija mode must obviously be the Mālava country. This inference is supported by the evidence of the texts and the overwhelming number of Bhūmija temples in Mālava.

The *Aparājita* enumerates twenty-five types of Bhūmija temples of which ten are orthogonal *(caturaśra)*, seven circular *(vṛttasaṁsthānaka)* and eight with eight *bhadras (aṣṭaśāla)*. The *Samarāṅgaṇa* has listed only sixteen

[14] P.K. Acharya, *Manasara: An Encyclopaedia of Hindu Architecture*, London 1946, Vol. VII, p. 265, and Mankad, *Aparājitapṛccha*, p. xxxi.

[15] Chapter 65: 1, 100.

types, but its description is more systematic and detailed. The treatment in the *Aparājita,* which is obviously based on the *Samarāṅgaṇa,* however, is somewhat summary, and more or less in the *sūtra* form for convenient memorization by the working architect. Thus it naturally emphasises the essential features of each type in just a few lines and therefore not only supplements the *Samarāṅgaṇa* but also acts as a valuable commentary on it.

The *Samarāṅgaṇa* describes only four types in the orthogonal class, including one type specimen each of the *tryaṅga, pañcāṅga, saptāṅga* and *navāṅga* forms. The *Aparājita* has increased the four orthogonal types into ten and actually furnishes three varieties each of the *tryaṅga* and *pañcāṅga* forms and two varieties each of the *saptāṅga* and *navāṅga* forms. The *tryaṅga* temples are described in the texts as *triratha* on plan and *catūrbhuma* in elevation, but no Bhūmija temple of this description has yet been discovered. Examples of *pañcāṅga* and *saptāṅga* types, both on plan and in elevation, are available. The old Śiva temple (Pl. 19) at Jamli (Dhar District, Madhya Pradesh) is of the orthogonal *pañcāṅga* type from Mālava, while the Mahānāleśvara temple (Pls. 35-36) at Menal (Chittor District, Rajasthan), the small temple in a tank, three miles from Menal, and the triple-shrined temple (Pl. 31) at Balsane (Dhulia District, Maharashtra), are of the same type but from outside Mālava. All the known examples of the orthogonal *saptāṅga* type come from outside Mālava. These include the Ambaranātha temple at Ambarnath (Pls. 29-30), Goṇḍeśvara temple at Sinnar (Pls. 33-34) and Maṇkeśvara temple at Jhodga (Pl. 32) in Nasik District which are all in Maharashtra. They also include the Devī temple (Pl. 41) at Ramgarh (Kota District) and the so called Sun temple (Pls. 44-45), at Jhalrapatan (Jhalawar District) which are both in Rajasthan. No example of the orthogonal *navāṅga* type has yet come to light.

The *Aparājita* and the *Samarāṅgaṇa* furnish identical lists of seven types of the circular class *(vṛttajāti* or *vṛttasaṁsthānaka),* respectively ranging from three storeys *(tribhūma)* to nine *(navabhūma).* A circular plan and four *bhadras* are common to all of them. It is significant that the *Samarāṅgaṇa* has thrice laid down that the intermediate *rathas* between the *bhadra* and the *karṇa* are to be built by *parivartanā* (moving round the gnomon) within the circle, which obviously refers to the stellate layout of the plan producing acute-angled projections for the intermediate *rathas,* a dominant feature of the class.[16] From the way these temples are treated and extolled in the *Samarāṅgaṇa* it is clear that the *vṛttajāti* formed the metropolitan Mālava

[16] Chapter 65: verses 84, 112, 125.

type. This is equally confirmed by its frequent occurrence in Mālava. The repeated reference to the kings in the valedictory stanzas closing the descriptions of most of the circular types in the *Samarāṅgaṇa* probably indicates that they were preferred for royal foundations.[17] Further, the *rekhā* of their *śikharas* is to be drawn, according to the same text, on the principle of the *ṣaḍguṇasūtra* (six-fold delineation of the cord), another characteristic of the Bhūmija temples of Mālava.[18]

Examples of the *tribhūma, caturbhūma, ṣaḍbhūma* and *aṣṭabhūma* types of the circular class are not available. As regards the *pañcabhūma,* at least three illustrations are known from Un (West Nimar District, Madhya Pradesh) in Mālava of which one, namely the Mahākāleśvara temple (Pl. 21), is *pañcaratha* on plan, as prescribed in the texts, showing a vertical row of only three *kūṭastambhas* in each quadrant. Two temples, on the other hand, namely the Oṁkāreśvara and the Nīlakaṇṭheśvara temples, are *saptaratha* with a vertical row of five *kūṭastambhas* in each quadrant. Of the *saptabhūma* circular type, there are two well preserved examples from Mālava. One is the celebrated temple at Udaypur, Madhya Pradesh (Pls. 15-18) and the other is the Mālavai temple (Pls. 27-28) at Alirajpur (Jhabua District), while from Rajasthan we have the Bhand Deorā at Ramgarh (Pls. 37-40), (Kota District). We know of a number of stellate temples of *pañcaratha* and *saptaratha* plan from sites like Un and Onkar Mandhata (East Nimar District, Madhya Pradesh) and Nemawar (Dewas District, Madhya Pradesh) in Mālava and from sites like Rahilya and Makarbai near Mahoba (Hamirpur District, Uttar Pradesh) and Ajayagarh (Panna District, Madhya Pradesh) outside Mālava. As far as one can judge from their poor state of preservation, they must have carried *pañcabhūma* and *saptabhūma* Bhūmija *śikharas* respectively. According to the texts the *saptabhūma* circular temple was a favorite of Śiva, which is confirmed by a majority of known examples. Lastly, we have two examples of the rare *navabhūma* stellate type, the Siddheśvara temple at Nemawar (Pls. 24-26) in Mālava and the Uṇḍeśvara temple at Bijolia (Bhilwara District) in Rajasthan.

[17] The Udayeśvara temple at Udaypur (Vidisha District, Madhya Pradesh) is recorded to have been built by the Paramāra king Udayāditya. The same king may have patronized the construction of the temples at Un (Nimar District) two of which bear inscriptions mentioning his name. These temples follow the circular-stellate plan.

[18] *Samarāṅgaṇa,* 65 : 74.

Of the eight *aṣṭaśāla* types enumerated in the *Aparājita* five are exhaustively dealt with in the *Samarāṅgaṇa*. A stellate plan in a circular layout with eight *bhadras* is common to all, the variations being due to the varying number of storeys *(pañcabhūma, saptabhūma* or *navabhūma)* or *karṇas* (eight, sixteen or twenty-four) and a difference in the form of the *mañjarīs* and the number of *śṛṅgas* on the *śikhara*. It is interesting to note that the texts prescribe *nāgarakarma* or *drāviḍakarma* or a combination of both for the *mañjarīs* of some types. *Nāgarakarma* in the Bhūmija context may either mean the embellishment of the *śikhara* with the *latā*, so characteristic of the Latina mode, or better still, its decoration with *uraḥśṛṅgas* and *śikharikās* in the Anekāṇḍaka manner. Examples of *nāgarakarma* may be seen on the so-called Sūrya temple at Jhalrapatan and the Sūrya temple at Ranakpur. *Drāviḍakarma* may mean the embellishment of the *śikhara* with a Cāḷukya type of pyramidal *kūṭa* as employed, for example, on the temple of Ambarnath.[19]

As regards actual specimens of the *aṣṭaśāla*, the two known examples come from outside Mālava. One is the Gaḷateśvara temple at Sarnel (Pl. 50) dating from the third quarter of the twelfth century and the other, the fifteenth century Sūrya temple at Ranakpur (Pls. 46-47). Both of them are regional interpretations of the Bhūmija order combined with Māru-Gurjara elements and features of local origin.

The Sarnel temple (Pl. 50) answers to the *saptabhūma aṣṭaśāla* type described in the *Samarāṅgaṇa* in as much as it possesses two *karṇas* between each pair of *śālās*; but while (according to the text) four of its *mañjarīs* should be treated with *nāgarakarma* and four with *drāviḍakarma*, the temple, itself employs the Bhūmija mode only for the treatment of the *śikhara* with *latās* on the *mañjarīs* and *kūṭastambhas* of a regional form on the *karṇas*. The Ranakpur temple (Pls. 46-47), however, corresponds more closely to the *navabhūma aṣṭaśāla* type of the text and has three *karṇas* between each pair of *śālās, nāgarakarma* on all the eight *mañjarīs* in the form of *uraḥśṛṅgas*, and developed *karmaśṛṅgas* simulating *kūṭastambhas* on the *karṇas* which combine and integrate with the Bhūmija *mūlamañjarī* higher up. I may mention here that the Jaina temple at Arang (Pl. 51), though a Bhūmija monument, is *ṣaḍbhadra* in plan — a type not prescribed by the texts for temples in the Bhūmija style.

[19] To the north Indian author of the *Samarāṅgaṇa* a Cāḷukya feature or motif would appear as *drāviḍakarma*.

PART TWO: DISTRIBUTION OF BHŪMIJA MONUMENTS

I. MĀLAVA

I shall now review the essential features of Bhūmija temples, starting with the Udayeśvara temple at Udaypur (Pls. 15-18). Built by the Paramāra king Udayāditya, after whom the temple and the place are known, this is the most finished example of the Bhūmija class, and is an architectural masterpiece. The temple faces east and consists of a *garbhagṛha* (sanctum), an *antarāla* (vestibule), a *gūḍhamaṇḍapa* (closed hall) with three *mukhamaṇḍapas* (porches) and a low flat-roofed *sabhāmaṇḍapa* (assembly hall) on the same axis; it stands, surrounded by seven subsidiary shrines, on an extensive and lofty *jagatī* (terrace), access to which is given by a stairway flanked by over life-size figures of Śaiva *pratīhāras*. Its sanctum is stellate-cum-circular and is *saptaratha* on plan and *saptabhūma* in elevation, conforming to the Śataśṛṅga type of the texts, a form favorite to Śiva. Each quadrant of its *śikhara* shows seven horizontal and five vertical rows of *kūṭastambhas* set in perfect harmony and a beautifully carved tall *latā* terminating in a bust of Śiva in front and *grāsamukhas* on the remaining sides. All the lineaments of its plan are carried from the lowest molding of the *pīṭha* right up to the *skandha* which rhythmically follows the tallying configuration of the *maṇḍovara* and *śikhara*. Above is a serrated *ghaṇṭā* carrying the usual crowning members. Corresponding to the imposing sculptured medallion (Pl. 16) crowned by a very large *grāsamukha* forming the *śukanāsa* on the east, there are (Pl. 15) three smaller sculptured medallions (*śūrasenakas*) at the bases of the *latās* on the remaining three cardinal points, in which are depicted various forms of Śiva notable for their artistic quality. The *gūḍhamaṇḍapa* carries a *saṁvaraṇā* (bell-roof) which is rendered boldly; but which is distinct from the Gujarat variety. The form and decoration of its pillars and doorway, the sequence of moldings of the *pīṭha* and *varaṇḍikā* (eave-cornice) and the treatment of its *jaṅghā* are equally distinctive. The pillar (Pl. 18) is rather short with a square *kumbhikā* and a shaft, cubical below, octagonal in the middle and circular above. The square section below bears a sculptured niche on each face; the octagonal section has a chain-and-bell design issuing from a *grāsamukha* on each alternate facet; and the circular section is embellished with a band of flying Vidyādharas, surmounted by a conical leaf-shaped motif, and capped by a circular *bharaṇa* (capital). The doorjambs of the *mukhamaṇḍapas* have three *śākhās*

and that of the sanctum five, each showing a *stambhaśākhā* embellished with spiral bands of stencilled scrolls (Pl. 17). One *śākhā* in each of the three *triśākha* doorways and two *śākhās* of the *pañcaśākha* doorway are carved with figures of Vidyādhara couples. Each projection of the *jaṅghā* is treated as a tall square pilaster which carries (1) a sculpture within a *parikarma* (image frame) in the form of a *makaratoraṇa* below and (2) a chain-and-bell suspended from a *grāsamukha* above, these being surmounted by a *bharaṇa* with multiple, minute moldings. The recesses *(salilāntaras)* of the *jaṅghā* and the *śikhara* are decorated with a bold design of lotus scrolls. The *jaṅghā* is capped by an elegant but inconspicuous *kūṭacchādya,* embellished with lifelike figures of pigeons to indicate that the architect intended it to be a *kapotapālikā.* Each *kūṭa* of the superstructure simulates a *pañcabhūma* Bhūmija *śikhara* with a horizontal row of three *kūṭas* in each quadrant. With its ambitious size and fine proportions, the subtle rhythm of moldings harmonizing with the pleasing curvature of the *śikhara*, and the elaborate sculptural ornamentation integrating with the vibrant architectural mass, this temple is the grandest of the Bhūmija temples, and a model of the form, worthy of its royal builder. Since it is recorded to have been commenced in A.D. 1059, but commissioned for worship only in A.D. 1080, we may take A.D. 1059 as the date of its foundation.

The majority of Bhūmija temples in Mālava are seen to follow the pattern of the Udayeśvara temple; those differences which do occur are noted in the following discussion. All of the Mālava temples are stellate, with the exception of the Jāmaleśvara temple at Jamli (Dhar District, Madhya Pradesh) which is the only orthogonal shrine in Mālava (Pl. 19). It is also the smallest and plainest, being *pañcaratha* on the plan and *pañcabhūma* in elevation, and having a plain *pīṭha* and *vedībandha.* Even its *jaṅghā* is devoid of carvings except for the *bhadras* which carry images within *parikarmas.* Its *śikhara,* however, has the usual ornamentation and shows four human figures above the *karṇas* between the *skandha* and the *ghaṇṭā.* The doorway of its sanctum is of the *triśākha* variety; only the *stambhaśākhā* being decorated as in the Udayeśvara temple. This temple seems to be later than the Udayeśvara by not more than a decade.

Un (West Nimar District, Madhya Pradesh) possesses eight Bhūmija temples (Pls. 20-22). These have essentially the same plan and *śikhara* design as the Udaypur temple, but are smaller and simpler and indifferently preserved. All of them are Śaiva and belong to the *pañcabhūma* stellate type of the texts; but some of them are *pañcaratha* and others *saptaratha* on plan, showing respectively three and five vertical rows of *kūṭastambhas*

in each quadrant. They lack the *kūṭacchādya* and, except for the *bhadras* which as a rule carry images of Naṭarāja, Tripurāntaka and Cāmuṇḍā within *parikarmas,* their *jaṅghā* is devoid of sculptures and is decorated with pilaster designs on the projections as well as recesses, those on the recesses being tall *kūṭastambhas.* Similar *kuṭastambhas* are also repeated on the *salilāntaras* of the *śikhara.* Stylistic similarities between the Udaypur temple and those at Un, and the find of an inscription of the Paramāra king Udayāditya in one of the Un temples,[20] locally known as Chaubara Dera No. 1 (which, incidentally, is the only *pañcāyatana* temple at the site), demonstrate their contemporaneity.

Onkar Mandhata, situated on the river Narmada in East Nimar District, Madhya Pradesh, had nearly half a dozen Bhūmija temples, but all are badly mutilated and have entirely lost their original *śikharas.* From what has remained of their *maṇḍovaras* they appear to be stellate structures with a *pañcaratha* or *saptaratha* plan belonging largely to a stage posterior to the Udaypur temple and, therefore, assignable to the late eleventh century. One of the local temples, namely the Amareśvara temple, more popularly known as the Māmaleśvara temple (Pl. 23), however, bears a number of votive inscriptions referring to the temple, of which one is dated A.D. 1063.[21] The mutilated remains indicate that the original temple belonged to the second half of the tenth century, and that it was rebuilt in the late eleventh century.[22] Of the tenth century temple only a portion of the *maṇḍovara* (wall) is preserved. It has typical tenth century *vedībandha* (podium) moldings and the *jaṅghā* is decorated on the *bhadra* and the adjoining *rathas.* The *bhadra* carried a sculpture within a *parikarma* crowned by a short *udgama,* while the adjoining *rathas* were embellished with the design of a fairly tall *kūṭastambha* which shows the characteristic form of a tenth century *nāgarakūṭa* of the Latina type. Even in the absence of a *śikhara,* its stellate plan and the presence of the *kuṭastambha* ornament on the *salilāntaras* of its *jaṅghā* leave no doubt that the temple was of the Bhūmija type; while the boldness of its *vedībandha* moldings and the early form of the *ardharatna* and the *caitya*-arch ornaments resembling those on

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20 *ASIAR,* 1918-19, p. 17.

21 *Epigraphia Indica* XXV, pp. 173-85.

22 Amareśvara, which is reckoned among the twelve *jyotirliṅgas,* is believed to be timeless and is certainly the earliest as well as the holiest shrine at Onkar Mandhata as is indicated by its numerous votive records. It is, therefore, not surprising that the original Amareśvara temple should date from the tenth century. If the temple site is scientifically excavated even earlier remains may be uncovered.

the tenth century temples of Central India, Rajasthan and Gujarat definitely suggest a tenth century date. Nothing could be more striking than the contrast between the tenth century and the late eleventh century *maṇḍovara* of the same temple, the latter showing more developed *vedī-bandha* moldings and highly stylized forms of designs such as the *caitya* arch, diamond, *maṇibandha,* and the *vandanamālikā* consisting of the lower half of star-shaped flowers, so typical of the later Bhūmija style. The remaining Bhūmija temples at the site generally share the design and composition of the late eleventh century Amareśvara temple.

Nemawar (Dewas District, Madhya Pradesh), also situated on the Narmada in Mālava, has two Bhūmija temples, one the celebrated Siddheśvara temple (Pls. 24-26) and the other a roofless temple, also Śaiva, beside it. Both of them are stellate and *saptaratha* on plan with five vertical rows of *kūṭastambhas* in each quadrant. The roofless temple has a lofty *pīṭha* with *gajathara* and *narathara*, derived from the contemporary architecture of Rajasthan, on top. This mutilated temple, which does not appear to have been finished, suffered from a surfeit of ornamentation. Evidently it was the handiwork of the same guild which built the neighboring temple of Siddheśvara. The Siddheśvara, which is less lavishly ornamented, is the loftiest Bhūmija temple in Mālava, having nine storeys *(navabhūma)* and it belongs to the type known in the texts as Sarvāṅgasundara with the maximum number of permissible storeys. The elevation of the temple, however, cannot even pretend to grace or elegance and this for two reasons: (1) its socle is disproportionately small for its height, and (2) its *mālās* have an excessive curvature. Nevertheless, the temple is an ambitious structure, rich in ornamentation; it has figure-carvings within *parikarmas* not only on the *kumbha* moldings of the *vedībandha* and the *jaṅghā* (as on the Udayeśvara), but also on the *mañcikā* (pedestal molding) below the *jaṅghā* and on each pilaster of the nearly two hundred *kūṭastambhas* of its superstructure. Even the recesses *(salilāntaras)* of the *jaṅghā,* as well as the *śikhara,* are carved with figures of Apsarases, those of the *jaṅghā* being combined with lotus scrolls similar to those of the Udayeśvara temple. The Siddheśvara is thus more ornate than the Udayeśvara; and since it largely employs the same designs and ornaments in a more developed form, it could be a generation later and should be assigned to the beginning of the twelfth century. The treatment of the *vedikā* and the grilles of its *maṇḍapa* and *mukhamaṇḍapa* possibly show the influence of Rajasthan.

The Śiva temple at Alirajpur (Jhabua District), locally known as the Mālavai temple (Pls. 27-28), is a stellate *saptabhūma* temple with essentially

the same plan and *śikhara* design as the Udayeśvara, but about three centuries removed. In fact it is one of the latest Bhūmija temples in Mālava, with a marked degeneration in the quality of the carvings and the figures. But for the *bhadras,* the *jaṅghā* is devoid of figures and shows tall *kūṭastambhas* in the recesses. Its *karṇa* is treated differently as a polygonal stellate member all along the elevation including the *śikhara* where the customary *kūṭastambha* is replaced by a member resembling *arjunaphala,* mentioned in the *Aparājita.* Its *śurasenakas* are devoid of sculpture and function as decorative frames for the finials of the *nāgarakūṭas* crowning the sculptured *rathikās* below each *latā.*

The Bhūmija temple latest in time in Mālava is the Śiva temple at Barro Khera near Neemach (Mandasor District, Madhya Pradesh), a plain structure of the *miśrajāti.*[23] Its *śikhara* is largely Nāgara with *śikharikās* including *uraḥśṛṅgas,* and it is only the *karṇas* which show a vertical row of pseudo-Bhūmija *kūṭastambhas* (six out of the seven are preserved) of a type resembling those occurring on the upper part of the *śikhara* of the Sūrya temple at Ranakpur with which it appears to be contemporary.

II. MAHARASHTRA

The architects of Maharashtra showed a preference for the orthogonal type of Bhūmija temples although the stellate type is not unknown. The earliest known Bhūmija temple in Maharashtra is the Ambaranātha dated A.D. 1060 (Pls. 29-30). Built on the plan of two squares placed adjacent to each other diagonally, the basic constituents of its plan and elevation are akin to those of the Udayeśvara, but the treatment and total effect are quite different from the Mālava Bhūmija type and, as a matter of fact, are exceptional even for Maharashtra. For example, the treatment of the *saṁvaraṇā* roofs of the *maṇḍapa* and of its three porches, and of the *kūṭastambhas* of the *śikhara* with pyramidical types of *kūṭas* capped by *ghaṇṭikās* is unparalleled, the latter constituting the nearest approach to the *drāviḍakarma* of the texts. While the socle shows some Gujarat influence in the introduction of a *gajapīṭha* and in the embellishment of the *kalaśa* molding, the influence of Karṇāṭa is evident in the rendering of the doorframe (notice the capital of the *stambhasākhā* and the stance of the Śaiva *pratīhāras*), of some of the pillars, and in the theme and modelling of the sculptures.

[23] *Gwalior State Gazetteer,* Bombay 1908, Vol. I, Part IV, Pl. 345.

Balsane, in Dhulia District, Maharashtra (ancient Seuṇadeśa), has a group of temples of which the triple-shrined temple (No. 1) is the only one with *śikhara* somewhat intact (Pl. 31). Nearly a century later than the Ambaranātha and the Udayeśvara, this temple comes close to the Mālava type in general appearance and décor, particularly of the *śikhara*. Each of its constituent units was a *pañcaratha* and *pañcabhūma* shrine with a common *gūḍhamaṇḍapa*. While the *gajapīṭha* is absent from its socle, the treatment and décor of the *maṇḍovara*, particularly the *kumbha* and *kalaśa* moldings and the *jaṅghā*, *udgama* and *bharaṇī*, are strongly reminiscent of the Solaṅkī style of the time of Kumārapāla. Its sanctum doorway has five exquisitely ornamented *śākhās*, the first showing scrolls, the second vegetal loops enclosing musicians, the third and fourth being respectively *stambha* and *ratnaśākhās* and the fifth showing a spirited design of *vyālas* with riders. The influence of Karṇāṭa is seen in the treatment of the architrave of the doorway and also in the pillars and pilasters which have circular moldings, as if turned on the lathe.

The Maṅkeśvara temple at Jhodga (Nasik District, Maharashtra) (Pl. 32) is triple-shrined, resembling on plan Temple No. 1 at Balsane, but with a well preserved *saptabhūma śikhara* of an advanced design above the main shrine. Though its *pīṭha* and *vedībandha* have plain moldings and the former lacks the *gajapīṭha*, the *jaṅghā* shows the usual figural décor of the later Karṇāṭa mold. The *śikhara* has certain developed features indicating the mid-twelfth century as its approximate date. The *latā* or *pañjara* of the *śikhara* is flanked by *bālapañjaras* consisting of *tilakas* of an unusual pattern. While the *latā* is crowned by *grāsamukha*, the *karṇas* of the *śikhara* are crowned by figures as on the temple at Jamli. The front *śukanāsa* is a very elaborate composition with its sculptured *rathikā* more prominent than the *śūrasenaka*, which is reduced to a mere decorative pattern.

The Goṇdeśvara temple at Sinnar (Nasik District, Maharashtra) (Pls. 33-34) is an ambitiously planned *pañcāyatana* temple with a *nandimaṇḍapa* facing the main shrine. While the main shrine is *saptaratha* on plan with a *saptabhūma* Bhūmija *śikhara*, the subsidiary shrines are *pañcaratha* on plan with all constituents consistent with the Bhūmija type save the *śikhara*, which is of the *pañcāṇḍaka* Nāgara class. Above the *gajapīṭha*, the main shrine shows an ornate *khura* and the usual sculptured *kumbha*, but the *jaṅghā* is for the large part devoid of figures and is embellished with decorative motifs including tall *kūṭastambhas*. While the *latās* and the *kūṭastambhas* of the *saptabhūma* Bhūmija *śikhara* are decorated in the usual way, the *śukanāsa*, and the *saṁvaraṇā* roof of the *maṇḍapa* and the *ardhamaṇḍapas* employ decorative

elements derived from early thirteenth century Karṇāṭa architecture. This date is also indicated by the crude style of the figures. The door-frames and some pillars, however, show pleasing ornamentation even though they belong to the late Karṇāṭa type, with striking affinities to the Śiva temple at Ramgarh (Kota District).

The Bhūmija style was quite popular in Maharashtra between the thirteenth and fifteenth centuries, and has left some important architectural monuments notably the Jagadambā temple at Kokamthan and Amṛteśvara temple at Ratanvadi, both in Ahmadnagar District. The Kokamthan temple, datable to the late thirteenth century, is stellate on plan and strikes a new note in treating the *bhadras* as decorative *devakulikās,* complete with Bhūmija *śikharas*. The Amṛteśvara temple at Ratanvadi is later in style and in the treatment of the Bhūmija *kūṭas* of the *śikhara* with horizontal striations, and in the introduction of large *madalas* combined with *bhāraputtalikās* below the *kūṭacchādya* resembles the fifteenth century temples of Rajasthan.

III. RAJASTHAN

The earliest Bhūmija temple in Rajasthan is the Mahāvīra temple at Sewari (Pali District) (Pl. 43). This is an orthogonal *pañcaratha* temple but is exceptional in having six storeys *(ṣaḍbhūma),* a feature theoretically reserved only for the stellate class in the texts. The lower structure of the temple is of stone, while its superstructure, with three vertical and six horizontal rows of *kūṭastambhas* in each quadrant, is made of bricks. As the entire brickwork is covered with thick plaster, the carvings on the *latās* and the *kūṭastambhas* cannot be seen. But for the *bhadras* which carry images within *parikarmas* crowned by *udgamas,* the *jaṅghā* is plain. Since the *vedībandha* moldings are typical of the early eleventh century architecture of western India, the temple has been rightly assigned to *c.* A.D. 1010-20 by Dhaky, who affirms that its *latās* show vigorous curvature and that there is a convincing harmoniousness between the sub-structure and the *śikhara.*

The next Bhūmija temple in Rajasthan is the Mahānāleśvara temple at Menal (Chittor District) (Pl. 35), which appears to be contemporary with the Udayeśvara temple. Excellently preserved, the temple comprises an orthogonal *pañcaratha* sanctum with *pañcabhūma* Bhūmija *śikhara,* an *antarāla* with a *śukanāsa* crowned by a *siṁha,* a *raṅgamaṇḍapa* and *mukhamaṇḍapa* with a chaste *saṁvaraṇā* roof, and a detached, tiny *nandimaṇḍapa,* all on the same axis. Its *pīṭha* is squat due to the unusual absence of the *karṇikā* (knife-edge) molding between the *jāḍyakumbha* (inverted cyma recta) and

the *grāsapaṭṭī* which is surmounted by the *gajapīṭha* and *narapīṭha*. The *jaṅghā* is ornate and shows the usual figures and an upper row of smaller figures of flying Vidyādharas. But for the *śikhara* of the exotic Bhūmija mode, the temple is on the whole a normal example of a reasonably ornate Rajasthani temple of the late eleventh century. The *śikhara* bears *latās* terminating in busts of Śiva, the four busts corresponding to the usual fourfold forms of a *caturmukha* Śivaliṅga, but the *śūrasenakas* at the base of the *latās* are devoid of figural sculpture and serve as decorative frames for the turrets of what look like miniature *mānastambhas*.

Within three miles of Menal and in a tank is situated a smaller Bhūmija temple of orthogonal *pañcaratha* plan with a *pañcabhūma śikhara*, showing a vertical row of three *kūṭastambhas* of which the central one on the *karṇa* is larger, as on the so-called Sūrya temple at Jhalrapatan (below p. 107). With the sculptures confined to the *bhadras* of the *jaṅghā*, this temple is plainer than the Mahānāleśvara but is otherwise similar and also of the same date.

Unlike the Mahānāleśvara temple, the Śiva temple known as the Bhand Deora at Ramgarh (Kota District) (Pls. 37-40) has a lofty and exceptionally ornate *pīṭha* with two unusual bands, namely the *siṁhapīṭha* (lion-band) and *aśvapīṭha* (horse-band)[24] between the *gajapīṭha* (elephant-band) and *narapīṭha* (man-band) and an additional *kapotikā* molding between the *karṇikā* and the *grāsapaṭṭī*. The temple is much damaged and comprises a stellate *saptaratha* sanctum with a *saptabhūma śikhara*, an *antarāla* with a mutilated *śukanāsa*, a *raṅgamaṇḍapa* with the roof now denuded of its upper courses, and a *mukhamaṇḍapa* of which only the socle survives. Its *jaṅghā* and *śikhara* are profusely decorated and laden with figures. The *salilāntaras* of the *jaṅghā* harbor figures of *vyālas*, while those of the *śikhara* have Munis and perhaps also Apsarases. In the latter respect as well as in the adornment of the *kūṭastambha* pilasters of the *śikhara* with figures within *parikarmas*, this temple resembles the Siddheśvara temple at Nemawar. The *śūrasenakas* are smaller in size and contain figure sculptures, but these are practically hidden by the crowning ornaments of the superstructure of the usual *rathikās* which occur at the base of each *latā*. All of the pillars are square and ornate, the principal ones of the *raṅgamaṇḍapa* being lavishly

[24] *Aśvapīṭha*, which is found associated with the grand Meru type of temple in Gujarat, is in rare cases found on medium-size temples in Rajasthan, such as those at Kiradu. But the occurrence of *siṁhapīṭha* is exceptional. It is noticed in only one northern Indian text, the *Vatthusāra Payaraṇa* dated A.D. 1326.

provided with images of niched, seated deities on the base, standing divinities on the lower part of the shaft, and four rows of friezes on the upper part of the shaft. The capital *(bharaṇī)* is adorned with *āmalaka, padma,* and *maṇibandha* (jewel-band), and surmounted by a *śīrṣa* (bracket) bearing *kumāra* (atlantes) figures. The sanctum doorway betrays a strong influence from Karṇāṭa, particularly in the rendering of the *stambhaśākhā* and the *kapota* molding of architrave (cf. the doorway of the Goṇḍeśvara temple at Sinnar). This Bhūmija temple, remarkable both for its lofty *pīṭha* and the ornate treatment of its interior and exterior, is attributable to the early twelfth century.

The Devī temple (Pl. 41), which is a subsidiary shrine of the Śiva temple at Ramgarh, is even more interesting, offering as it does a new interpretation of the Bhūmija mode. It is an orthogonal structure with a *saptaratha* plan and *saptabhūma* elevation and stands on a *pīṭha* crowned by *gajapīṭha* and *narapīṭha* moldings. Up to the *varaṇḍikā* it is a normal example of an ornate Rajasthani temple. Its *śikhara,* however, is of an exceptional form having on each face five vertical rows of Bhūmija *kūṭastambhas,* each alternating with a thin strip of *latā.* When minutely observed the middle row of *kūṭas* accommodated in the bifurcation of the central *latā* is found to be of different design and resolves into a series of *rathikās,* each crowned by a *phāṁsakūṭa.* Thus in having a *latā* on the *pratyaṅga* between the *pratiratha* and the *karṇa,* this temple offers an absolutely novel form of the Bhūmija *śikhara,* giving equal prominence to the Latina element. Indifferently preserved, the temple has lost the top portion of its *śikhara,* while the *śukanāsa* of the *kapilī* projection is stripped of its face stones. The sanctum doorway, however, is preserved, and shows spiral bands on the *stambhaśākhā* as on the Bhūmija temples of Mālava.

The Uṇḍeśvara temple at Bijolia (Bhilwara District) (Pl. 42) shares the date of the Śiva temple at Ramgarh, and is likewise stellate and *saptaratha* on plan; but it is *navabhūma* in elevation. Its *pīṭha,* standing on a pair of *bhiṭṭas* (plinths) and crowned by the *gajapīṭha,* is more substantial than that of the only other known example of the *navabhūma prāsāda,* namely, the Siddheśvara temple in Nemawar in Mālava (above p. 101) with the result that the lower structure does not look so stunted. There is also a difference in the make-up of the *śikhara;* the first two *bhūmis* do not have the full complement of *kūṭastambhas,* but have only *stambhas,* a feature which considerably reduces the disparity between the heights of the superstructure and the lower structure. Thus a variation in proportion and a divergent form of *rekhā* produce an elevation distinct from that of the Nemawar

temple, but hardly more appealing aesthetically. Another novel feature of this temple is the introduction of decorative miniature replicas of *veṇukośas* on the flanks of the central *latā*. The *śūrasenakas* crowned by *grāsamukhas* contain sculptures and are small but prominent. The *latās* which have an excessive curvature and taper, are crowned by the triple head of Śiva as Maheśamūrti.

The so-called Sūrya temple[25] at Jhalrapatan (Jhalawar District) (Pls. 44-45) is orthogonal and *saptaratha* on plan and *saptabhūma* in elevation and offers a notable example of the *miśrajāti*, combining features of the Bhūmija with a regional variety of the Nāgara style. The Bhūmija *latā* is not so prominent and is accompanied by a pair of lean-to *uraḥśṛṅgas* on each side, while the *kūṭastambhas* of the *śikhara* diminish in number in each quadrant from five in the lower half to three in the upper half. Further, the *kūṭastambhas* of the *karṇas* are broader in size than those of the Menal temples and seem squat and ugly. The *āmalaka* crowning the *śikhara* is also disproportionately large. It is to he noted that the treatment of the moldings and the applied decoration of the temple including the two bands of sculptures on the *jaṅghā* does not conform to the Bhūmija conventions. In place of the normal type of *śukanāsa* over the *antarāla* roof, the temple vaunts a *navāṇḍaka* Nāgara *śikhara* with *uraḥśṛṅgas* and *karṇaśṛṅgas*, which is exceptional even for Rajasthan in this age. In front of the *antarāla* is a fairly large and ornate *raṅgamaṇḍapa* with three *mukhamaṇḍapas*, each entered through an *āndolatoraṇa*. The pillars of the *raṅgamaṇḍapa* and the *mukhamaṇḍapas* are lavishly embellished with decorative and figural ornamentation. The principal pillars of the *raṅgamaṇḍapa* are octagonal, the four central ones being taller with attic *(uccālaka)* sections, while the dwarf pillars resting over the *āsanapaṭṭa* are of the Bhadraka type. Stylistically this temple appears to be a little earlier than the Bijolia temple and may be dated to the end of the eleventh century.

No Bhūmija temple is available for practically the next three centuries in Rajasthan. During the fifteenth century, however, there was a brilliant revival of architectural activity evidenced by numerous temples of the Nāgara style and two Bhūmija temples, namely the Sūrya temple at

[25] The temple is called the Sūrya temple after the syncretic image of that God in the western *bhadra*-niche of the *jaṅghā*, but is more popularly called Sāt Saheliyõ kā Mandir after the figures of the Seven Mothers depicted on the architrave of the sanctum doorway. The representations of Bhū-Varāha, Narasiṁha and Sūrya on the main *bhadra*-niches of the *jaṅghā*, however, indicate that the temple was probably dedicated to Viṣṇu.

Ranakpur (Pls. 46-47) and the Śiva temple known as the Adbhutnātha at Chittor.[26] The Ranakpur temple is the earlier of the two and belongs, like the Bhūmija temple at Jhalrapatan, to the *miśrajāti,* combining features of the Nāgara and Bhūmija styles. It is unique in plan and design and has an *aṣṭaśāla* sanctum with an *aṣṭabhadra maṇḍapa.* Its *maṇḍapa* facade is embellished with a *kakṣāsana* decorated with prancing horses so as to give it the semblance of a solar chariot. A similar band of prancing horses also girdles the sanctum in the same horizontal alignment to constitute the lower part of the *jaṅghā,* the upper part aptly showing seated figures mostly of solar deities along with Dikpālas (regents of the cardinal points). The *varaṇḍikā* has been picturesquely decorated with a *vidyādharapaṭṭikā,* surmounted by a *maṇibandha* and a *haṁsapaṭṭikā,* as noted by Dhaky. It has a prominent *kūṭacchādya,* which is rather unusual for a Bhūmija temple, but is consistent with the regional Nāgara style. Among the Bhūmija types of the texts, this temple corresponds to the *navabhūma aṣṭaśāla* variety in showing three *karṇas* between each pair of *śālās* and in embellishing all the *mañjarīs* of the *śikhara* with *nāgarakarma.* The composition of its *śikhara* is quite distinctive and offers a mixed fare of the late regional Nāgara idiom with a few Bhūmija traits. On all the *uraḥśṛṅgas* except the lowest, the normal *veṇukośa* is replaced by a *nāgarakūṭa* resting on a stylized *ghaṭapallava* member. A vertical row of similar *nāgarakūṭas* also shoots up from the main *karṇa* and dominates the elevation. The remaining *śikharikās* which stand either on stylized *ghaṭapallavas* or on pilasters, the latter constituting a Bhūmija feature, are developed *karmaśṛṅgas* and look heavy and stalagmitic. All the *śikharikās,* however, converge on, and are cleverly integrated into, the Bhūmija *mūlamañjarī,* rendering this temple a remarkable example of the mixed Nāgara and Bhūmija class.

The last Bhūmija temple built in Rajasthan is the Adbhutnātha at Chittor (Pl. 48), about a generation later than the Sūrya temple at Ranakpur. Dedicated to Śiva as Maheśamūrti, this temple offers a pronounced regional version of the Bhūmija mode. It is *pañcaratha* and has an unusually broad *bhadra* with a corresponding *latā* and three vertical rows of *kūṭastambhas* in each quadrant of the *śikhara.* Its *varaṇḍikā* includes a *vidyādharapaṭṭikā* and is surmounted by a *kūṭacchādya* supported on brackets. The *śikhara,* together with all its constituents, is composed of minute horizontal striations. The *latā* also is similarly composed and shows in

[26] See M.A. Dhaky, "Renaissance and the late Māru-Gurjara Temple Architecture," *Journal of the Indian Society of Oriental Art* (1965-66), pp. 4-22.

addition figures within or without niches and a *rathikā* containing diamonds and surmounted by a *nāgarakūṭa* in the place of the *śūrasenaka*. The temple is fairly ornate and employs late regional varieties of ornament like the *mattālamba* (balcony-motif) and the *lumā* (bud). The temple has a truncated appearance owing to the partial destruction of its *śikhara* and the complete destruction of the *maṇḍapa* roof.

IV. GUJARAT

Only two Bhūmija temples are known from Gujarat and both come from the region contiguous to Mālava, which was once under the cultural influence of the Paramāras. The earlier of these is the triple-shrined stellate Śiva temple at Limkheda (Panchmahal District).[27] Devoid of ornament except on the *jaṅghā*, the lower structure of the temple is of stone and the superstructure was probably of brick, now lost (Pl. 49). The *vedībandha* moldings start directly from a *bhiṭṭa* course. The projections of the *jaṅghā* are articulated with pilasters of the Bhadraka design, while the *salilāntaras* are adorned with sculptures. The *jaṅghā* also displays bold decorative designs of scrolls and broad floral motifs which are typical of the Bhūmija temples of Mālava. The doorframe of the temple repeats these designs and with its characteristic *stambhaśākhās* and bands of figures at the lower end is of the Mālava type. On consideration of the style of the sculptures and the decorative motifs, the temple is assignable to the mid-eleventh century and is the earliest triple-shrined Bhūmija temple so far known.

The other Bhūmija temple of Gujarat, namely the Gaḷateśvara temple at Sarnāl (Kaira District) (Pl. 50), corresponds to the *saptabhūma aṣṭaśāla* type of the Bhūmija class described in the text, as it has a sanctum with eight *bhadras* and shows two *karṇas* between each pair of *bhadras*. But for its peculiar plan and exotic *śikhara* design, the temple represents a normal example of an ornate Solaṅkī (Māru-Gurjara) temple of the late twelfth century. Its lower structure is in a very pure Māru-Gurjara manner, while its super-structure is Bhūmija presented in a regional garb. The temple has *kūṭacchādya*, which is not as prominent as in a Solaṅkī temple. It has *kūṭastambhas* as required on a Bhūmija *śikhara*, but the *kuṭas* are of the regional, Gujarat form. Similarly the *śūrasenakas* appearing at the bases of

[27] Recently discovered by Sri H.R. Gaudani. I owe detailed information about the temple to Sri M.A. Dhaky.

the *latās* present a variation of the Bhūmija type. Despite mutilation, the *śikhara* originally seems to have been seven-storeyed. The temple has a fair-sized *raṅgamaṇḍapa* of the usual Solaṅkī design supported on almost plain pillars.

V. REGIONS TO THE EAST OF MĀLAVA

After reviewing the Bhūmija temples found to the south-west and west of Mālava, we must also note those temples existing to the east of Mālava, in the regions comprising ancient Ḍāhala, Mahākośala and Jejākabhukti. The nearest is the Śiva temple at Kanorabari (Damoh District, Madhya Pradesh) in Ḍāhala, situated about a hundred miles due east of Udaypur, which itself lies on the eastern border of Mālava. It is a stellate, *pañcaratha* and *pañcabhūma* structure showing three vertical rows of well preserved *kūṭastambhas* in each quadrant. The temple is unadorned and lacks sculptures even on the *jaṅghā,* which displays crude decorative motifs of short *udgamas* on the *bhadras* and large diamonds on the remaining projections. On consideration of the style of these decorative motifs and of the *jālaka* of *caitya* arches employed on the *latās* and the *kūṭas,* the temple is assignable to the end of the twelfth century.

The Śiva temple at Bhoraoli (Bhind District, Madhya Pradesh), situated about two hundred miles north of Udaypur, shares the plan and design with the temple at Kanorabari and is almost coeval with it. Its *śikhara* is mutilated beyond the second storey and is restored in plain masonry.

The Jaina temple, locally called Bhand Dewal, at Arang (Raipur District, Madhya Pradesh) (Pl. 51) in Mahākośala is a stellate *ṣaḍbhadra* and *pañcabhūma* temple interpreting the Bhūmija mode in the Kalacuri, that is, the Ḍāhala style prevalent in the region. Although the temple resembles the Sūrya temple at Ranakpur in having three *karṇas* between each pair of *bhadras,* it is exceptional in having six *bhadras,* a feature even unknown to the texts. It is a highly ornate temple characterized by a vertical accentuation of all the constituents of elevation and in respect of proportion approaches the celebrated Kalacuri temple of Virāṭeśvara at Sohagpur (Shahdol District, Madhya Pradesh). Its *pīṭha* is lofty and shows a peculiar sequence of moldings, placing the *gajapīṭha, aśvapīṭha* and *narapīṭha* below the normal *pīṭha* moldings. The *khura* of the *vedībandha* displays the typical Kalacuri penchant for a bold *maṇibandha,* while a latticed band, another characteristic Kalacuri ornament, is carved on the

lower part of the *kumbha* molding. The *jaṅghā* shows two bands of sculpture demarcated by a *vidyādharapaṭṭikā*. The sculptures represent Jaina *śāsana-devatās* in the *bhadra* niches, other deities including the Dikpālas and Apsarases on the remaining projections, and erotic couples and *vyālas* in the recesses. The upper sculptural band is surmounted by a *chādya, bharaṇa,* and a lion capital, the whole being crowned by a bold *kūṭacchādya,* which separates the *maṇḍovara* from the *śikhara*. The *śikhara* rises from a *haṁsapaṭṭikā* surmounting a *kapota*. The *latā,* shooting up from each *bhadra,* lacks the *śūrasenaka* but shows the usual sculptured niche at the base, and is mounted by a diminishing series of panels containing Jaina figures, which may be regarded an innovation. The constituent elements of the *kūṭastambhas* are of the regional form, the *stambhas* displaying niched diamonds in the lower part. The crowning members of the *śikhara* are intact and resemble those of the Virāṭeśvara temple at Sohagpur assignable to the end of the eleventh century, with which the temple is coeval.

The ancient Candella hill fort at Ajayagarh (Panna District, Madhya Pradesh) in Jejākabhukti has two Bhūmija temples dating from the early thirteenth century (Pls. 52-54). As stated by Dhaky, "they are very ornate, in keeping with the spirit of the age, but showing curious promiscuity of four styles—Gopādri, Cedi, Mālava and Jejākabhukti in their plan and elevation." On plan each comprises a stellate *saptaratha* sanctum, an octagonal *raṅgamaṇḍapa* with transepts and a *mukhamaṇḍapa*. Each has a highly ornate *pīṭha, vedībandha* and *jaṅghā,* the last showing pilasters of the Bhūmija type. Although the *śikhara* is not preserved, the fallen debris indicates that the temples had five horizontal rows of *kūṭastambhas* in each quadrant and a Bhūmija *latā* with a *śūrasenaka* on each side. Practically every inch of the exterior and interior is carved and embellished. Although Bhūmija conventions preponderate, decorative ornaments have been freely drawn from the Cedi and Candella styles and even the pillars of one of the temples (No. 1) are Candella in character.

Of the same age and style are the Rāhilyeśvara Mahādeva temple at Rahilya and the triple-shrined Jaina temple at Makarbai, both situated near Mahoba (Hamirpur District, Uttar Pradesh) another Candella site in Jejākabhukti. They are, however, relatively plain examples with their Bhūmija *śikharas* fairly well preserved.

The foregoing discussion indicates that like Mālava, the region to its east also had a fondness for the stellate plan. In fact, Mālava has only one orthogonal Bhūmija monument, namely the Śiva temple at Jamli, but not one of this type is so far known from the region east of Mālava. On the

other hand the orthogonal plan was favored in Maharashtra and Rajasthan, though a stellate plan was not quite unknown. It is to be noted that the orthogonal plan was too simple for the ornate Bhūmija style and was hardly suited to bring out its inherent charm and character. It was the stellate plan that suited its genius and lent itself to a lively play of light and shade on all parts of its elevation, such as the sculptures of the *jaṅghā* and the *kuṭastambhas* of the *śikhara*. In the words of Kramrisch, these *kuṭastambhas* "appear as so many gigantic beaded garlands thrown up towards the neck *(grīvā)* of the *śikhara*."[28] Since the Bhūmija temples were, by and large, dedicated to Śiva[29] which fact is also recognized by the texts *(vallabhaḥ sarva-devānāṁ śivasya tu viśeṣataḥ)*,[30] the analogy may be stretched further and the Bhūmija *śikhara* be likened to a monumental garland of *rudrākṣas* adorning the neck of Śiva, who is frequently represented at the crest of the central *latā*, as on the Udayeśvara temple at Udaypur, the Mahānāleśvara temple at Menal, and the Uṇḍeśvara temple at Bijolia. Further, the absence of *aṣṭaśāla* Bhūmija temples in Mālava is to be noted, despite the fact that this type also finds a prominent mention in the *Samarāṅgaṇa*, which is a Mālava text. The destruction of temples and inadequate exploration may be a possible explanation of the fact that no *aṣṭaśāla* temple is known in Mālava; all the same, it is obvious that this type could not have been popular anywhere on account of the complexity of its plan and design as is indicated by the only two known examples of it from Sarnel in Gujarat and Ranakpur in Rajasthan, both located in the peripheral regions of Mālava.

The main difference between the Bhūmija *śikhara* on the one hand and the various types of the Nāgara *śikhara* including the Latina and Anekāṇḍaka on the other is that the Bhūmija lacks the *veṇukośa* and replaces it by what the *Aparājita* calls *śṛṅgāṇāṁ mālikākramaḥ* or the storeyed arrangement of the *kūṭastambhas* on the *karṇas* and also the other *rathas* except the central one.

Bhūmija was a difficult and delicate style and depended for its success on a subtle combination of the Latina and Kūṭina. Kramrisch was the first to recognize this feature, and stated that "in principle though not in

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28 Kramrisch, *Hindu Temple*, p. 218.

29 All Mālava temples are dedicated to Śiva. Outside Mālava the exceptions are the Jaina temples at Arang and Makarbai, the Sūrya temple at Ranakpur and the so-called Sūrya temple at Jhalrapatan.

30 *Samarāṅgaṇa*, 65: 109.

quantity the Latina is its more powerful component."[31] In fact the Latina provides the framework, while the Kūṭina lends to the Bhūmija its decorative charm and character in the form of the storeyed composition of the *kūṭastambhas*. The happy balance between the two principles was maintained so long as the seven-storeyed *(saptambhūma)* design was not exceeded, but whenever the seven-storeyed design was exceeded in favor of the nine-storeyed *(navabhūma)* one, tilting the balance as it were in favor of the Kūṭina, the result was esthetically disastrous. The two known Bhūmija temples with the *navabhūma śikhara*, namely the Siddheśvara temple at Nemawar and the Uṇḍeśvara temple at Bijolia, are instances in point.

Bhūmija was a noble and virile form of superstructure and was responsible for creating some masterpieces of medieval Indian architecture, like the Udayeśvara temple at Udaypur, the Oṁkāreśvara temple at Un and the triple-shrined temple (No. 1) at Balsane. The style had an individual character and its own subtleties of proportion and outline and nuances of moldings and ornamentation. Bhūmija was an urban and sophisticated style and has been specifically called the ornament of the city *(bhūmijā purabhūṣaṇāḥ)*.[32] It was indeed a distinctive architectural form of which Mālava, its land of origin, can well be proud.

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31 Kramrisch, *Hindu Temple*, p. 219.

32 *Aparājita*, 171: 10.

M.A. DHAKY

THE GENESIS AND DEVELOPMENT OF MĀRU-GURJARA TEMPLE ARCHITECTURE

(Plates 55-95)

I. PRELUDE

The medieval Northern Indian temple styles may be classified into four major, clearly defined, zonal varieties: the Eastern, the Central, the Upper and the Western. Of these the Western one covered the largest area, endured the longest and, above all, was the most productive of the four.

This Western Indian style, which I have for some time chosen to call the Māru-Gurjara style, appeared as a cogent distinctive expression of Indian temple architecture around the opening years of the eleventh century A.D. both in Gujarat and Rajasthan. By the close of the first quarter of the eleventh century it extended from Paranagar near Alwar in upper Rajasthan to Parol near Bombay, a north-south stretch of over a thousand kilometers, and west to east from Dewalthatha in Sind to Atru in eastern-most Rajasthan, a distance of not less than six hundred kilometers. Not only is the major portion of present Rajasthan thus covered; Gujarat with its four traditional territorial divisions — Ānarta, Surāṣṭra, Kaccha and Lāṭa — is also entirely incorporated. In the process of its very rapid expansion the Māru-Gurjara style maintained an astonishing, even an irritating uniformity of expression. A few minor, localized, idioms which appeared in the early stage of the style's formulation were soon submerged; from the third quarter of the eleventh century till the end of the thirteenth century (which marks the end of the creative period), its formal as well as decorative features reveal a stable pattern yielding only to such slow gradational changes which the inescapable law of decay imposes on everything. Nevertheless, this tradition has managed, even now, to escape the ultimate destiny, extinction.

The Māru-Gurjara style, it may be said, was past its peak of artistic creativity after such noble creations as the Sun temple at Modhera (A.D.

1027), the Someśvara temple at Kiradu (founded possibly a few years earlier), and the Mahāvīra temple at Kumbharia (A.D. 1062). In plan and elevational composition, and in the relationship of the internal and external organization, it nonetheless continued to evolve. The climax of these efforts is obvious in the hall for the sacred dance in the Modhera temple complex (*c.* third quarter of the eleventh century), in the splendid interiors of the marble temples at Dilwara and Kumbharia, in such major undertakings as the fort at Jhinjhuwada (*c.* early twelfth century), the Rudramahālaya temple at Sidhpur (*c.* A.D. 1140), the temple of Ajitanātha at Taranga (A.D. 1166), the great temple of Somanātha at Prabhas Patan (A.D. 1169), the Hīrā gate at Dabhoi (A.D. 1255), and, as late as the fifteenth century, in the vast complex of the Caturmukha temple of Ādinātha at Ranakpur and, above all, the two monumental pillars at Chittor.

The monuments of the Māru-Gurjara style number over a thousand, attested as they are by epigraphic and literary sources, and by their remains now extant in Western India. I will demonstrate in brief that this productivity was occasioned by historical circumstances of exceptional signifi .ce and a socio-religious milieu of rare potential and resilience; I shall .lso touch upon the extent to which these circumstances help our understanding of the main problem under consideration, that of the origin and subsequent development of the Māru-Gurjara style.

II. THE PARENT STYLES

I propose first to discuss the situation in Western India before and after the dawn of the eleventh century, a time I earlier suggested as the lower limit for the beginning of the Māru-Gurjara style. Regardless of the cultural context and regardless likewise of the historical setting, and, on the basis of a critical analysis of style alone, it is possible to divide Western India of the data prior to A.D. 1000 into three definite units. The first covers the upper part of the pre-medieval Marumaṇḍala or Marudeśa (Marwar) together with Śākambharī or Sapādalakṣa (the Sambhar area) and merges imperceptibly near the Śaurasena country (the Bharatpur-Delhi-Mathura triangle) with the area where flourished the styles of Madhyadeśa or the Ganga-Yamuna valley. An offshoot of this Marumaṇḍala style is also to be found in upper Medapāṭa (Mewar) with Chittor as its starting point and moving further northwards and eastwards through Uparamāla-Mālava. Following the suggestion made originally by A. Ghosh

of using the regional denominations in lieu of dynastic ones,[1] I have preferred to call this style stretching from Marudeśa to Medapāṭa the Mahā-Māru style.

The second of the Western Indian units is represented by the style which covers upper Saurashtra, Kutch, northern Gujarat (Ānarta including Sārasvatamaṇḍala) and lower Rajasthan; the latter subsuming pre-medieval Gurjaramaṇḍala to the west of Abu, Arbudamaṇḍala or Abu proper and its environs, and adjacent parts of lower Medapāṭa. I have named this the Mahā-Gurjara style: the reasons for the choice of these new denominations have been explained at some length elsewhere.[2]

The third style prevailed over a very restricted area but otherwise had a fairly early beginning in time. It was confined to lower Saurashtra and possibly extended into the western part of Kutch. I propose to name it the Surāṣṭra style, Surāṣṭra being a relatively more ancient appelation of this territory than the more frequently met Saurashtra.

I shall now make some preliminary observations on the matrix of each of these three styles and their mutual relationship; their formal features will be discussed in due course.

As field studies unambiguously indicate, the styles of Madhyadeśa, of contemporary Daśārṇa-Mālava-Cedideśa, of the Maru-Medapāṭa-Śākambharī complex, and of the Himalayan kingdoms, represent variants of one and the same style which evolved in the pre-medieval period (the Pratīhāra age) from the earlier, almost homogeneous, style that prevailed in the Ganga-Yamuna valley as well as in Central India during the times of the Guptas. Krishna Deva has called the art and architecture of pre- and early medieval times in Central India and Upper and Eastern India an "extension of Gupta art."[3] The Rajasthan variant—or the Mahā-Māru style as I call it—is thus one of the four direct descendants of the Gupta style. Nor is this all. The western boundary of the Mahā-Māru style was somewhere near Sind, which possessed a local but nevertheless powerful variation of the early Gupta idiom. After the incursion of Islam in Sind in the early years of the eighth century, one of the closest sanctuaries where the Brahmanical culture of the invaded territories could withdraw was Marudeśa. This, seemingly, should have made its own contribution to the

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1 *Seminar on Indian Art History 1962*, New Delhi, n.d., p. 12.

2 See my "Some Early Jaina Temples in Western India," *Śrī Mahāvīra Jaina Vidyālaya Suvarṇamahotsava Grantha*, Part I, Bombay 1968, pp. 307-312.

3 *Seminar on Indian Art History*, Appendix B.

formulation of the Mahā-Māru variant. The possibility of local factors is also present, particularly with regard to elements which could have lingered on from the Ābhīra art of the late Kuṣāṇa and early Gupta period, represented chiefly by large quantities of terracottas, particularly from the Bikaner region; and these may have contributed to the variation of the Rajasthan style from its congeners in Upper and Central India.

Although in some way related to the Mahā-Māru style, the Mahā-Gurjara style possesses its own distinctive features suggesting a separate origin. The style does not seem to derive from the Gupta style to which its precursors may have been nonetheless related. The Mahā-Māru and the Mahā-Gurjara temples remain clearly distinguished despite a camouflage of the basic elements common to both and devices whose presence one would naturally expect in contemporaneous and contiguous styles. Hypothetical considerations may point in the direction of the art of the Kṣatrapa period, of which, however, we possess only a hazy picture revealed by the rock-hewn caves of Junagarh and Khambhalida in Saurashtra. This late Kṣatrapa art is the source, more clearly, of the Surāṣṭra style as shown elsewhere.[4] This style, though supplying the formal links, and hence proclaiming a generic relationship with the Mahā-Gurjara style, is not a true precursor of the latter. Surāṣṭra temples are too severe, austere and limited in decorative repertoire in contrast to the exuberance and accomplishment of Mahā-Gurjara creations.

The Surāṣṭra style started its career from at least the end of the sixth century A.D. It utilized four principal forms of superstructure, the Kūṭina[5] (iso-Dravidic), the Valabhī (wagon-vault), the Phāṁsanā (stepped pyramidical) and the Latina (*ekāṇḍaka*, that is, curvilinear Nāgara *śikhara* of the single-spire variety). Of these the first two ceased to be popular and even fell into disuse after the close of the seventh century; from which time on the Latina form took the lead. In fact, it prevailed universally at that moment in Northern India—Kashmir excepted. Today however, the oldest, extant Latina temples known to us both in the Māru-Gurjara and the Mahā-Māru style are not earlier than the eighth century. Compared to contemporaneous temples in the Surāṣṭra style they, by all reckoning, are much superior. By the ninth century, the Mahā-Gurjara style had firmly planted its feet and was treading confidently on the path of evolution; the

[4] J.M. Nanavati and M.A. Dhaky, "The Maitraka and the Saindhava Temples of Gujarat," *Artibus Asiae*, Supplementum XXVI.

[5] In *ibid.*, it has been termed Vimānākāra.

Surāṣṭra style, by contrast, was on the rough road of devolution, and, despite some catalytic inspiration it received at a later stage from its more potent neighbour, the decadence steadily eating away its core could not be arrested. Its final disappearance could have occurred sometime around the middle of the tenth century, when the Mahā-Gurjara style moved further down into lower Saurashtra, filling in the vacuum created by the decay of the Surāṣṭra style. It would thus appear that, of the three constituent units of the Māru-Gurjara style, only the first two—the Mahā-Māru and the Mahā-Gurjara—have a direct relevance to the main thesis projected in this paper.

I shall now call your attention to a map (Fig. g) which summarily illustrates the distribution of styles in Western India. On the testimony of extant monuments, the upper boundary of the Surāṣṭra style has been drawn to start from below Vala (*anc.* Valabhī) on the eastern sea-board of Saurashtra and to cross the twenty-second parallel near Jamnagar via Khimrana (where exists a ninth century temple in the Surasṭra style but showing Mahā-Gurjara influence), and across the Gulf of Kutch passing through Puaṁ Rā'no Gaḍh where, in Rāṇī Rājai's temple (late ninth century), the two styles meet once again. This line demarcates the Surāṣṭra from the Mahā-Gurjara style.

The upper boundary of the Mahā-Gurjara style starts from a point near Cambay, leaving aside Malwa, to encompass the whole of northern Gujarat, lower Mewar, the Abu area, and a part of lower Marwar as well. This is the farthest limit it reached between the ninth and tenth centuries. At Chittor, in the opening years of the ninth century, the representatives of both the Mahā-Gurjara and the Mahā-Māru styles (though the former is a diluted, provincial variation) stand side by side.[6] At Pali, in the tenth century, both the styles are front to front.[7] A little lower, in Nadol, the Mahā-Gurjara forced the Mahā-Māru style to retreat.[8] Farther north, the influence of Mahā-Gurjara style had penetrated right into the heartland of the Mahā-Māru style, as seen in the shrine at Harsha,

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[6] Two small, ruined shrines to the north of the Samidheśvara temple.

[7] The Jaina Vīranātha-mahācaitya is a Mahā-Gurjara, and the Vaiṣṇava Ānandakaraṇaji temple a Mahā-Māru, building.

[8] The Lakṣmaṇasvāmī temple, whose remains are now incorporated in the Jāgeśvara temple at Sadri, is in the pure Mahā-Māru style, while the other temples such as the Someśvara, the Nīlakaṇṭha, and the Cārabhujā founded a generation later, are essentially Mahā-Gurjara edifices with a few elements of the previous style still lingering.

Fig. g. Map of western India showing the distribution of temples in various styles.

though it must be admitted that by this time it was in turn being influenced by the Mahā-Māru manner.[9] By the last quarter of the tenth century the Mahā-Gurjara style is seen to enter Osia, one of the pivotal centers of Mahā-Māru architecture,[10] and spread out as far as Phalodi near Medta, a place to be distinguished from a town of the same name not far from the traditional border between Maru and Sind (Sindhudeśa).

The Mahā-Māru style, a creation of the Pratīhāra empire and heir to the traditions of the art of the Gupta empire, could no longer bear passively the forays of the Mahā-Gurjara style. The reply came, laden as much with love as with vengeance. It launched, at the close of the tenth century, a reverse, three pronged attack—from Māru, Śākambharī, and Upper Medapāṭa—on the forcibly defined frontiers between both the styles. Like a gale, it swept over the territory of the Mahā-Gurjara style. Defense after defense fell before its irresistible charm: Kiradu and Bhinmal in Gurjaramaṇḍala, Chandravati in Arbudamaṇḍala, and Ahar in lower Medapāṭa, were first to succumb. It next slipped through the gates of Patan Anhilwad, the metropolis of Gujarat. The result? It was a tense moment, of intense, passionate embrace of the two leading styles of Western India, one virile and handsome, the other ornate and bewitchingly beautiful. In the process, both lost their identity, the Mahā-Gurjara to a degree greater than Mahā-Māru. The union resulted in a beautiful offspring, which was to be honored, loved and supported by a great empire, that of the Solaṅkīs; its idioms were to influence Maharashtra, Malwa, and the Cedi country when medieval times were to come to a climax. It inherited the propensities of its parents, the basic structural forms and organizational ability of the one, and the ornateness and rich ornamental designs of the other.

It is this style which I have been referring to in my recent writings as Māru-Gurjara.[11] Here "Māru" is symptomatic of the Mahā-Māru part of its heritage while "Gurjara" indicates its genesis from the Mahā-Gurjara style.

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9 Its doorframe is in Mahā-Gurjara style. The pillars have a vase-and-foliage member, and the *mattavāraṇa* possesses elephant heads symptomatic of the Mahā-Māru. The *śikhara jāla* work, though akin to Mahā-Māru, reflects the development of the Sapādalakṣa school of the Mahā-Māru style.

10 The north-facing shrine attached to the *raṅgamaṇḍapa* of the Sacciyāmātā temple and the small shrine added to the entrance-hall of the Mahāvīra temple.

11 The Māru-Gurjara is, perhaps, the Lāṭa style of the *Lakṣaṇasamuccaya*, if Lāṭa is taken in its widest sense to represent the entire Western Indian territory in the eleventh century.

The story of the birth of the Māru-Gurjara style, as we know it now, is one of the most fascinating I have known in my dealings with the history of Indian temple architecture, almost simulating the drama of biological creation, and reflecting as it were the principles of genetics to which the organic forms of a living world are subject.

The problem of the genesis of the Māru-Gurjara style is likewise as complex as that of any biological species: and it needs patient, rather elaborate preparations before we can even begin to study it. The first prerequisite is, of course, an intimate knowledge of the formal and decorative features as well as the distinctive nuances of the Māru-Gurjara style, and, parenthetically, of its two parent styles. This, incidentally, presupposes a knowledge of the technical vocabulary and a short introductory statement in explanation of the sources of the terms chosen. And finally the historical and socio-religious setting against which the whole drama of the genesis was enacted. We had best begin with the setting.

III. THE HISTORICAL AND SOCIO-RELIGIOUS BACKGROUND

At the fag end of the fifth century, when the Gupta empire had begun to crumble, there appeared at Valabhī in Saurashtra a new dynasty, that of the Maitrakas. It rose to great political power, and there is evidence to show that commendable literary activities took place within its dominions. The more than fifty temples in the Surāṣṭra style raised during the Maitraka period (A.D. 470-784), however, are very disappointing, in spite of their significance to the historian of architecture. Apart from illustrating the genesis of a Latina *śikhara,* and preserving ghosts of forms whose proto-types were there in the Gupta territories, the contribution of these buildings either to the understanding or to the formulation of the Mahā-Gurjara style is small. The Saindhavas of Ghumli (*anc.* Bhūtāmbilikā), who ruled between the middle of the eighth and the early part of the tenth century, also patronized the Surāṣṭra style, till it died out about the middle of the tenth century.

There is no evidence that anything of consequence was built in Rajasthan during the same period. The unearthed remnants of an old shrine at Nagari near Chittor, or the temple remains at Mukundarra, reveal an art allied to that of the contemporaneous Daśārṇa-Mālava provinces of the Guptas. The Śītaleśvara Mahādeo temple at Chandravati near Jhalarapatan (A.D. 689) is likewise related artistically to the Mālava buildings, though it does possess a few features that link it to subsequent Rajasthan temples.

The eighth century is a time of greater architectural achievement both in Gujarat and Rajasthan, the latter presenting evidences of a somewhat earlier beginning. Two powerful dynasties, the Guhilas of Mewar (who did not rise to imperial status) and the Gurjara-Pratīhāras of Marumaṇḍala, particularly those of Jalor (*anc.* Jabalipura-Jālihara?), who did, were to make a more significant contribution. The history of the collateral branch of the Pratīhāras of Mandor (*anc.* Maḍḍodara) and Medta (*anc.* Medāntaka), who survived for a fairly long period as suggested by their later inscriptions, is yet unclear. The period of the Grahapati king Mānabhaṅga, who founded two exceptionally large and ornate temples at Chittor, and that of his possible successor Bāppā (whose relationship to Mānabhaṅga and the manner in which he came to the throne is uncertain) was particularly notable for the initiation and development of architectural movements in the upper Medapāṭa country. The imperial Pratīhāras of Jalor came to prominence possibly in ths second quarter of the eighth century. Nāgabhaṭṭa I who repulsed the Arab invasion, and his grand-nephew Vatsarāja, and the latter's son Nāgabhaṭṭa II, laid the foundations of the dynasty's future glory. The second king to succeed Nāgabhaṭṭa, the illustrious Mihira Bhoja, shifted his capital to Kanauj sometime before A.D. 836, this movement coinciding with brightening architectural activities in the Śūrasena country and the Gopagiri-Daśārṇa belt. At the same time, the architectural activities cooled down in their home country. A century hence, the Cāhamānas, who succeeded the Pratīhāras in the Maru-Sapādalakṣa region, once again ushered in a phase of lustre, two kings of eminence being Siṁharāja (A.D. 944-71) and his successor Vigraharāja II (A.D. 971-98). A branch of the Cāhamānas established itself in the mid-tenth century at Nadol (*anc.* Naḍḍula) under Lakṣmaṇarāja, brother of Siṁharāja, and patronized architecture in that area. A minor but powerful clan of the Rāṣṭrakūṭas ruling at Hathundi (*anc.* Hastikuṇḍī) has left behind a few temples in their territory.

The later Guhilas shifted their capital from Chittor (*anc.* Citrakūṭa) to Ahar (*anc.* Āghāṭa) and possibly a little later to Nagada (*anc.* Nāgahṛda), both near modern Udaipur. The period between Allaṭa, who ascended the throne before A.D. 951, and his great-grandson Śaktikumāra, who suffered a disastrous defeat at the hands of the Paramāra king Muñja of Dhārā (c. A.D. 980), was a brief but brilliant architectural epoch in Mewar.

The Arbudamaṇḍala was governed by a branch of the Paramāras with their capital at Chandravati and a subsidiary capital at Vasantagarh (*anc.* Vaṭapura) from the mid-tenth century onward. But there are earlier

temples to be found at centers west and north of Abu, the dynastic, if not stylistic, associations of which are still unclear.

Several minor dynasties, moreover, had cropped up in the subjacent Gujarat area during the last days of the Maitrakas and immediately afterwards. Among them the Cāpās of Wadhwan (*anc.* Vardhamāna), and the Cāpotkaṭas of Patan Anhilwad (*anc.* Aṇhilapāṭaka) seem to be relatively more important. There also ruled an unknown dynasty in the Idar area during the late eighth century of which the name of one ruler, Sāmanta Candrāditya (probably a feudatory of the Rāṣṭrakūṭas) is known. The Makuāṇa(?) or the Kacchelā dynasty possibly began its rule in Kutch during the later part of the ninth century. After dethroning the Cāpotkaṭas of Aṇhilapāṭaka, the Caulukyas, popularly known as Solaṅkīs, started their career in the Sārasvatamaṇḍala under Mūlarāja I (A.D. 942-95). Their kingdom and their power grew in stature until it attained to the status of an empire in the second quarter of the twelfth century.

Royalty and nobility apart, the Jaina ministers and merchant princes in the kingdom of the Cāhamānas, the Paramāras, and more particularly the Solaṅkīs, too patronized architecture. The main inspiration was also provided by the three religions, Vaiṣṇavism, particularly influential in the early Pratīhāra period, Śaivism, with Lakulīśa as the tutelary Deity, which exercized enormous influence between the tenth and twelfth centuries and was unquestionably the predominant religion of the times; and, Jainism, particularly the Śvetāmbara branch. The Pāśupatas must have had some sort of an organized church, not similar to that of the Jaina fraternity, but a disciplined, monastic institution (of the type that was fostered by the Mattamayūra-Saiddhāntika sect of central India) as evidence from Rajasthan and later from Somanātha in Saurashtra would also suggest.

Jainism, which in medieval times contributed substantially to architectural activities in Western India, weakened in Gujarat after the collapse of its main nerve-center, Valabhī. It was now the turn of Rajasthan to patronize Jainism, and arrange for its triumphant return to Gujarat. A strong wave of Jainism possibly originating in Mathura passed over Rajasthan in the early eighth century and the religion began to flourish in several ancient as well as emergent centers in lower Rajasthan. The Pratīhāra Nāgabhaṭṭa I apparently had leanings towards Jainism. Jaina tradition associates him with the founding of temples to Mahāvīra at Sanchor (*anc.* Satyapura), Jalor, Korta (*anc.* Koraṁṭa) and other places. Influential Jaina pontiffs also founded temples, and promulgated new *gacchas*—sub-orders—within the ambit of the Church. Bhinmal (*anc.*

Bhillamāla, Śrīmāla), was a favorite center and so was Tharad (*anc.* Thārāpadra), within the borders of present-day Gujarat, where originated the Thārāpadra *gaccha*. Several famous *gacchas* of the medieval period were founded in Rajasthan; among them were Ukeśa (at Osia), Brahmāṇa (at Varman), Saṇḍeraka (at Sanderao) and Nāṇakīya (at Nana)—to name the more important. These flourished alongside the four ancient *kulas*, namely Nāgendra, Candra, Nivṛtti and Vidyādhara. The Cāhamānas and the Solaṅkīs were favorably disposed to Jainism, and some of them were even directly responsible for the construction of a few notable Jaina foundations.[12]

The populace in Western India of this period also contributed its share by building smaller shrines, many of which survived the vicissitudes that destroyed the majority of the larger, pretentious temples in the metropolitan centers or prefectural towns. Today, it is because of their survival that we are able to reconstruct the greater part of the history of architecture in Western India.

The political situation changed in the late eleventh century. The Cāhamānas were not half as strong now as they were in the tenth and early eleventh century and had soon to accept the suzerainty of the Solaṅkīs of Gujarat. The Paramāras of Abu, much against their wish, were compelled to accept the same fate sometime in the late tenth century. The prowess of the Guhilas had waned on account of the devastating inroads made by the Paramāras of Dhārā, who, in turn, were humiliated in the twelfth century by the imperialistic policy of Jayasiṁha Siddharāja of Aṇhilapāṭaka. The Cāhamānas of Nadol were, after intial conflicts, consistent allies of the Solaṅkīs. As a result of the emergence of the Solaṅkīs as an imperial power, the pivotal centre of political and cultural activities shifted to Aṇhilapāṭaka. That happened around the second quarter of the twelfth century.

There had been a steady influx of Jaina communities from Rajasthan to Gujarat from around the end of the tenth century onwards. Among them were the Oswāls (Ukeśavālas) from Osia, the Śrīmālīs from Bhinmal, the Porwāḍa (Prāgvāṭas) from western Mewar, and Palewāḷs (Pallivālas) from Pali (Pallikā). These merchant communities played a decisive role in building up the empire of Aṇhilapāṭaka. They also contributed very substantially to the temple building activities in Gujarat and adjoining tracts of Rajasthan. It was under circumstances such as these that art and

[12] This has been fully discussed in my "Some Early Jaina Temples."

architecture flourished most luxuriantly in Western India in the pre-medieval and medieval period.

IV. TEXTS AND TERMINOLOGY

Corresponding to the actual practice and in response to it, arose codes embodying the structural rules of the Māru-Gurjara style of sculpture, and more particularly architecture. They were, with the exception of one work in Prakrit—the *Vaththusārapayaraṇa* (*Vāstusāraprakaraṇa* of A.D. 1326)[13] all written in simple Sanskrit, a language presumably understood in the medieval period by the architects and sculptors although they might have actually used local terms—as in South India—in day-to-day parlance. The material found in these texts is indispensable for identifying formal details and in understanding the structural organization of the temple. What is more, these works equip us with the necessary vocabulary for attempting a truthful description of monuments of the medieval period in Western India. They not only liberate us from the deadly grip of the Classical and European architectural terminology but also from the jargon of tiresome, unsonorous terms of the Indian regional languages used by the present day craftsmen.

From among the thirty-eight available *vāstu* codes of Māru-Gurjara architecture, seven comparatively earlier compositions are most useful. The remaining works are more or less dependent on the older works and have little to add of value.

These early Māru-Gurjara texts are: the *Vāstuśāstra* of Viśvakarmā, the *Vāstuvidyā* of Viśvakarmā, the *Jayapṛcchādhikāra*, the *Devyādhikāra*,[14] the *Aparājitapṛcchā* of Bhuvanadevācārya,[15] the *Kṣīrārṇava* alias *Nāradapṛcchā*, and the *Vṛkṣārṇava*.[16] All carry rich information on almost all the obvious aspects of the style. Of these, the first two are among the earliest known: on internal evidence they must be assigned to the later part of the eleventh

[13] Edited by Pandit Bhagwandas Jain with translation in Gujarati, Kota 1939.

[14] Of these works, the *Vāstuśāstra* and the *Vāstuvidyā* are being edited by Prabhashankar O. Sompura and myself. The *Jayapṛcchādhikāra* and the *Devyādhikāra* are unpublished.

[15] P.A. Mankad, *ed., Aparājitapṛcchā of Bhuvanadeva*, Gaekwad Oriental Series CXV, Baroda 1950.

[16] *Kṣīrārṇava* has been edited by Sompura with a translation in Gujarati, Palitana 1967; the *Vṛkṣārṇava* is being edited by Sompura and myself.

century.[17] The *Jayapṛcchādhikāra,* though a work that primarily interests itself in civic, domestic, and military architecture, has some terms that find application to sacred architecture also. The close similarity of style and expression detectable between it and the *Vāstuvidyā* has now led me to guess that both works may be ascribed to the same author and consequently to the same period.

The *Aparājitapṛcchā,* as shown elsewhere,[18] seems to be a work compiled in the time of the Solaṅkī monarch Kumārapāla (A.D. 1144-74). The *Kṣīrārṇava* could have been composed towards the beginning of the fifteenth century, while the *Vṛkṣārṇava* seems posterior to the Caturmukha temple of Ādinātha founded in A.D. 1449, called *trailokyadīpaka prāsāda* in the inscription,[19] and described under this very name in the *Vṛkṣārṇava.* This evidence apart, there are other facts such as of the details of temple morphology given in this work, which agree with those of the buildings of the fifteenth century.

Central and Western Indian temples have many formal elements in common, and it is natural to expect a common code on terminology also. That this is indeed the case is borne out by the four known works on *vāstu* from Mālava. The additional information they contain can also be approximately used in the context of Western Indian temples. Seemingly the oldest text is the *Jayapṛcchā,* not to be confused with the homonymous Māru-Gurjara work mentioned in the foregoing discussion. Not only is it quite independent, but earlier, and may have even served as a model for the Māru-Gurjara text.[20]

A more directly important and relevant text is the *Samarāṅgaṇasūtradhāra* of Bhojadeva of Dhārā, composed sometime between A.D. 1035 and 1055.[21]

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17 Detailed observations on these and other works on Māru-Gurjara temple architecture, including a discussion of their date, have been made in my introduction to the *Prāsādamañjarī,* another work being edited by Sompura.

18 See M.P. Vora and M.A. Dhaky, "The Date of *Aparājitapṛcchā,*" *Journal of the Oriental Institute* IX (1959-1960), pp. 424-30 and M.A. Dhaky, "The Influence of *Samarāṅgaṇasūtradhāra* on *Aparājitapṛcchā,*" *Journal of the Oriental Institute* X (1961), pp. 226-234.

19 Ambalal Premchand Shah, *Rāṇakpur-nī Pancatīrthī* (in Gujarati), Bhavnagar 1956, pp. 105-107.

20 Unfortunately, only a fragment of this hitherto unpublished work has been recovered.

21 T. Ganapati Sastri, *ed., Gaekwad Oriental Series,* No. XXV; 2nd revised edition, Baroda 1966.

It may be slightly later than the *Jayapṛcchā,* but is yet clearly earlier than all the known *vāstu* works from Western India. Very informative as it is among the texts we know, it is also the richest in matters of technical vocabulary. I have relied heavily on this work of unquestioned merit.

The third work from the Mālava country is the *Rekhārṇava,* a work dealing with the subject of the *rekhā* (curvature) of the *śikhara* in Latina, Nāgara and Bhūmija forms. It is as yet unpublished. The fourth work is the *Pramāṇamañjarī* of Sūtradhāra Malla,[22] whose father Nakula was a favorite architect of the Paramāra king Udayāditya (late eleventh century A.D.). The work deals with wooden architecture and was intended to be a summary of the corresponding portion of the *Jayapṛcchā* and of one other work by Vīkṣa not at present available. It possesses terms that are equally pertinent to sacred as well as domestic architecture. Information from all these textual sources has been collected to build up a corpus of terms used in this paper.

This corpus is not only applicable to Māru-Gurjara temples; it is equally valid for the Mahā-Māru and Mahā-Gurjara examples, except for a few archaic features for which I depend on terms from the *Viṣṇudharmottara* (seventh century A.D.), the *Vāstutilaka* (*c.* seventh century A.D.) and the Pāñcarātra text *Hayaśīrṣa-saṁhitā,*[23] which can plausibly be dated to *c.* eighth century. For a few rare and exceptional architectural features, found particularly in the context of the Mahā-Gurjara style, parallels are available in Southern India; hence, and in the absence of other data, I have had to tap early Southern works such as the Śaiva, and the Vaikhānasa Vaiṣṇava *āgamas.*

V. MORPHOLOGY AND DECORATIVE FEATURES OF THE MĀRU-GURJARA TEMPLE

A. *General Characteristics*

The formal aspects of a Māru-Gurjara temple are basically not dissimilar to those of Central Indian temples, or for that matter to the temples of far-off Kaliṅga. In the rendering, the detailing, and the organization of the formal elements, and in the matter of applied decoration, a

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22 Priyabala Shah, *ed., The M.S. University Oriental Series* No. 3, Baroda 1958.

23 Priyabala Shah, *ed., Viṣṇudharmottara (tṛtīya-khaṇḍa),* Gaekwad Oriental Series No. 137, Baroda 1959, ch. 8 and Bhuban Mohan, *ed., Hayaśīrṣa Pāñcarātram,* Vol. I, Rajshahi 1952. The *Vāstutilaka* is being edited by Sompura and myself.

temple in the Māru-Gurjara style nevertheless shows its individuality without obscuring the generic ties it maintains with the contemporary styles of Northern India.

A Māru-Gurjara temple does not, generally speaking, stand on a high, moulded *jagatī* (terrace)[24] as seen in the Mahā-Māru style, but exceptions are sometimes noticed. The temple itself consists of two structural parts, the *mūlaprāsāda* (shrine proper) with a Latina, or Śekharī (multi-turreted) superstructure or very rarely spires of the Phāṁsanā,[25] Saṁvaraṇā[26] or Bhūmija.[27] Attached to the *mūlaprāsāda* by means of a *kolikā* or *kapilā* (buffer wall) is either a *prāggrīva* (distylar portal) in the case of smaller temples, a *gūḍhamaṇḍapa* (closed hall),[28] or a semi-open *raṅgamaṇḍapa* also called *nṛtyamaṇḍapa* (hall for theatrical purposes).[29] Sometimes a detached *toraṇa* (standing on its own pair of pillars) is placed in front of the *maṇḍapa*.[30] If the temple possesses attendant *karṇaprāsādas* (corner-shrines), it becomes on plan a *pañcāyatana* (quincunx) temple.[31] In a few cases two *bhadraprāsāda* shrines are attached to the transepts of a common hall, each facing the other.[32] A group of three shrines attached on cardinal offsets of a *raṅgamaṇḍapa* is one other possibility in the general planning of the temple.[33]

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24 The Jasmalnāthajī temple (early twelfth century), Asoda; the Navalakhā temple, Ghumli, and the Rāma temple, Baradia, both of late twelfth century, and the Vastupāla-vihāra on Mt. Girnar (A.D. 1232) are exceptions.

25 The Devī temple, Kambli, the Ambikā temple, Khedbrahma, and the Kumārīmātā temple, Dilwara, all of the early eleventh century.

26 The Brahmā temple (*c.* third quarter of the eleventh century), Khedbrahma, and the Śrī-Kṛṣṇa temple (*c.* early twelfth century), Valam (now partly renovated).

27 The only two examples known are the Mahāvīra temple (*c.* first quarter of the eleventh century), Sewadi, and the Gaḷateśvara temple (*c.* third quarter of the twelfth century) on the river Mahi. Two more, namely, the Sun temple, Ranakpur, and the Adbhutanāthajī temple, Chittor are much later, of the fifteenth century.

28 The Sun temple, Modhera, the Neminātha temple (dated A.D. 1129), Girnar, the Ajitanātha temple, Taranga, the Somanātha temple, Prabhas Patan.

29 Examples are fairly numerous: among smaller temples may be mentioned those at Sander (second quarter of the eleventh century), Sunak (third quarter of the eleventh century), Asoda, and Miyani; among larger ones, the Someśvara temple, Kiradu, and the Navalakhā temple (*c.* early twelfth century), Sejakpur.

30 Modhera, Asoda, Piludra, Delmal and Sidhpur. At times the *toraṇa* was added at a later date as at the Mahāvīra temple, Osia and the Devī temple, Delmal.

31 Khedwada, *c.* early eleventh century; Asoda.

32 A pair of double shrines (*c.* early twelfth century) on Mansar reservoir, Viramgam.

33 The triple shrine (*c.* early twelfth century), Kasara; and the triple shrine (late twelfth century), Parabadi.

A *sarvatobhadra,* that is *caturmukha* (four-faced) plan is known only from the later Jaina temples such as those at Ranakpur, Dilwara and Achalgarh,[34] although temples having such a plan may have existed in the Solaṅkī period. The larger temples are more often *sāndhāra* or *sabhrama* having an *andhārikā* or *bhrama* (ambulatory) around the *garbhagṛha* (inner sanctum).[35] But on the whole *nirandhāra* temples, i.e. temples lacking a perambulatory, are more common.

Jaina temples in the Māru-Gurjara style developed their own peculiar plan. Over an ample, lofty *jagatī* is placed a *mulaprāsāda* with its *gūḍhamaṇḍapa* in front along with a *trika* or *mukhamaṇḍapa* (vestibule) to which is attached an open *raṅgamaṇḍapa.* Surrounding this chain of structures, and skilfully united with it, is, as often found, a girdle of either twenty-four or fifty-two *devakulikās* (subsidiary shrines) with their cloistered corridors *(bhramantikā).*[36] Ingress to such a *pūrṇāṅga* (complete) Jaina temple is obtained through a *mukhacatuṣkī* (porch) or a *balānaka* (entry hall),[37] or through an opening in the *jagatī* immediately underlying the *balānaka.*

Temples sacred to Śiva, Viṣṇu or Sūrya customarily face the east: in very rare cases are they found facing the west.[38] Temples dedicated to

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[34] The Trailokydīpaka mahā-vihāra (Ranakpur: main construction 1449), the Caturmukha temple (A.D. 1459) near Vimala Vasahi (Dilwara), and the Caturmukha temple (A.D. 1510), Achalgarh.

[35] Modhera, Taranga; the Rudreśvara (*c.* A.D. 1027-30), the Sūrya (*c.* third quarter of the eleventh century), and the Śaśibhūṣaṇa temple (*c.* A.D. 1169), all at Prabhas; the Neminātha temple on Mt. Girnar (A.D. 1129); the Dvārikādhīśa temple (*c.* second quarter of the twelfth century), Dwarka; the Sacciyāmātā temple (A.D. 1178), Osia.

[36] The Mahāvīra (A.D. 1060), the Śāntinātha (*c.* A.D. 1080) and the Pārśvanātha temple (*c.* A.D. 1100) at Kumbharia are the most perfect examples of temples with twenty-four *devakulikās.* The temple at Sarotra (*c.* early thirteenth century) and the Tejapāla temple (*c.* 1232-42) at Dilwara possessing fifty-two *devakulikās* are good examples of that variety. The eighty-four Jinālaya variety is only known from the Caturmukha temple at Ranakpur, a late example. In most Jaina temple complexes of this type the *devakulikās* are known to have been added at subsequent periods.

[37] The Śānthināṭha temple, Kumbharia, the Tejapāla temple, Dilwara, and the temple at Sarotra have a *mukhacatuṣkī.* Most others possess a *balānaka.*

[38] The Rudreśvara temple, Prabhas Patan, the Siva temple on the hill (*c.* early thirteenth century) at Miyani, the Dvārikādhīśa temple, Dwarka; the Sun temple (early fourteenth century), Nagarā near Prabhas Patan, etc.

female divinities either face the east,[39] the west,[40] or the north.[41] Jaina temples are found facing in each of the four directions.[42]

B. *Talacchanda (Ground Plan)*

The *mulaprāsāda* of a temple in the Māru-Gurjara style is almost invariably orthogonal on plan.[43] In its simplest form, it can be *dvi-aṅga*[44] that is to say, possessing only two proliferations: *bhadra*, also called *ratha* (central offset), and *karṇa* or *koṇa* (corner) (Fig. h.a). In a *tri-aṅga* temple an additional member called *pratiratha* (companion of *ratha*) is inserted between the *bhadra* and the *karṇa* (Figs. h.b,e,d). In a *caturaṅga* plan a *nandikā* (half the size of the *pratiratha*) is added between the *bhadra* and the *pratiratha* (Fig. h.e). In a *pañcāṅga* plan, an additional *nandikā* (Fig. h.f) or its half—the *koṇikā*—is inserted between the *karṇa* and the *pratiratha* (Fig. h.g).

The configuration of the ground plan depends entirely on the proportional size and relative projection of each *aṅga*. The *bhadra* is always the largest member in length but its projection (width)[45] is invariably small, appreciably smaller than the length. The *karṇa* is always *samadala* (equilateral). Depending upon the nature of the temple's ground plan, the *pratiratha* as well as the *nandikā* can be *samadala*, or their width may be proportionately less. For the Latina shrine, as a rule, the projection of the *bhadra* is less, and that of the *pratiratha* is considerably so. While it is possible to build an *anekāṇḍaka śikhara* even on a plan where *aṅgas* do not project, the Latina *śikhara* cannot be built on those plans where most *aṅgas* are equilateral in projection.

The *gūḍhamaṇḍapa* or the *raṅgamaṇḍapa* when present, most often possess the same *aṅgas* as the *mūlaprāsāda*, but these may differ in pro-

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39 The temple at Dhinoj (mid-eleventh century), the Sanderīmātā temple (third quarter of the eleventh century), Sander, etc.

40 Sacciyāmātā temple, Osia.

41 Temples at Delmal and Khedbrahma.

42 The easterly or westerly orientation is, of course, more frequent. Those at Kumbharia face to the north. Likewise the Jaina temple at Miyani faces the north. Temples facing southwards are few in number and are of relatively late age.

43 The only exception is the Gaḷateśvara temple which has Bhūmija form and a stellate plan.

44 A plan of this style is called *triratha* in the Orissan terminology.

45 The *bhadra* can have *upāṅgas* (subsidiary proliferations) such as the *kṣobhaṇa (upabhadra)* and the *mukhabhadra (subhadra)*.

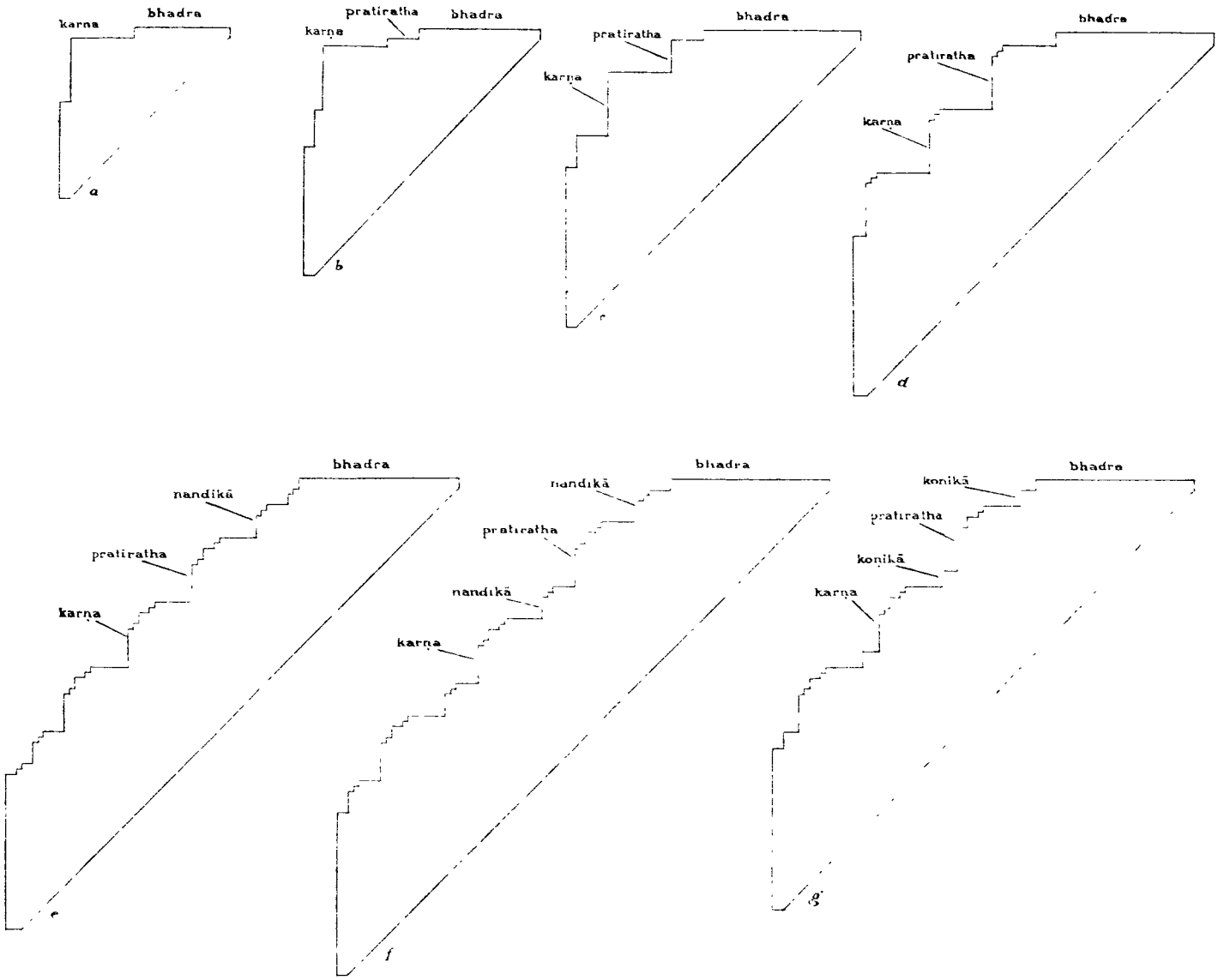

Fig. h. Types of wall plans, the Māru-Gurjara style.

portion depending upon the relative size. On plan the *gūḍhamaṇḍapa* has at least one opening, invariably in front, and in a few cases two additional, lateral openings as well.[46]

C. *Ūrdhvacchanda (Elevation)*

The ground plan broadly affects the nature of elevation though it does not determine the formal features, nor their sequential order, or the applied ornamentation either. These aspects are governed by an independent set of rules.

The *mūlaprāsāda* in its elevational aspect is considered an integral whole of three basic parts, the *pīṭha* (socle), the *maṇḍovara* (wall) and the *śikhara* (spire) (Pl. 55). The *pīṭha* in its most developed form (Fig. i) is composed of seven consecutive mouldings beginning with the *jāḍyakumbha* (inverted cyma recta), followed by *karṇaka* (knife-edged astragal), *antarapatra* or *antarapaṭṭa* (recessed band), *kapotikā* or *chādyakī* (hood), *grāsapaṭṭī* (chain of *kīrttimukhas*), *gajapīṭha* (elephant-band), followed in rare cases by the *aśvapīṭha* (horse-band), and the *narapīṭha* (human band). For imparting a greater height to the *pīṭha*, recourse is almost invariably taken to a *bhiṭṭa* (plinth) provided below the *jāḍyakumbha* (Pl. 56). At times two or three *bhiṭṭas* are employed depending upon the height determined for the socle and upon the designer's choice (Fig. k.26). The *jāḍyakumbha* is decorated (in earlier Māru-Gurjara temples) with lotus petals: in a few cases, the petals are further enriched with stencilled decorations.[47]

The *maṇḍovara* supported on the *pīṭha* resolves itself into three major components, the *vedībandha* (podium), the *jaṅghā* section, and the *varaṇḍikā* (eave-cornice) topping the *jaṅghā* (Pl. 57).

The *vedībandha* consists of five mouldings (Fig. j): the *khura* (hoof), *kumbha* (pot) surmounted by *kalaśa* (pitcher), *antarapatra*, and *kapotālī*

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[46] The Sun temple, Modhera, the Jaina temple (early thirteenth century A.D.), Sarotra, and a few others have a *gūḍhamaṇḍapa* with an opening only in front. The Vimala temple (A.D. 1032), Dilwara, the Neminātha, Mt. Girnar, the Someśvara temple, Prabhas Patan, the Ajitanātha temple, Taranga, the Samidheśvara temple (*c.* third quarter of the twelfth century), Chittor, and other temples of this type have three openings: (*cf.* the Ambaranātha temple of A.D. 1060 near Bombay done in the Seuṇadeśa style).

[47] The Someśvara temple, Kiradu, the dancing hall of the Sun temple, Modhera and the Nīlakaṇṭheśvara temple, Sunak, the latter two dating from the third quarter of the eleventh century.

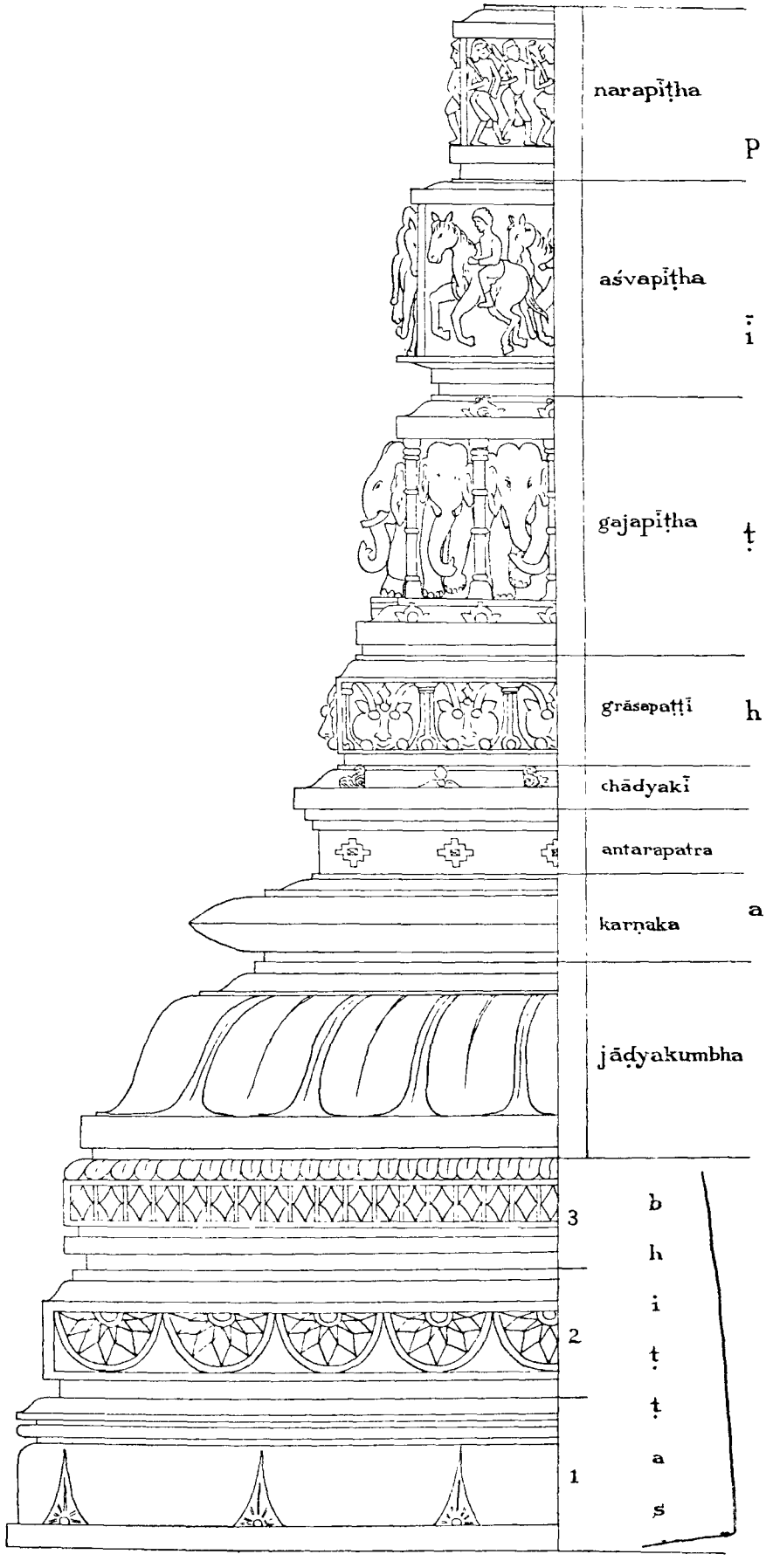

Fig. i. The *pīṭha* of a Māru-Gurjara temple.

(cyma-cornice). *Kumbha* is most frequently ornamented with either *ardha-ratna* (half diamond), *ardhapadma* (half lotus),[48] *candraśālā* or *ṭhakārikā* (*caitya*-dormer motif), *udgama*[49] or its equivalent, the *śūrasena* pattern[50] (each of which is a complex mesh of the *caitya*-dormer motif) or niched figures lightly projected from the central part of the *kumbha* faces.[51] On the broken up corner-planes of the *kumbha* may be carved figures standing in various attitudes *(nāsāyāṁ rūpa-saṅghāṭa)*[52]. The rotund part of the *kalaśa* in highly ornate temples is decorated with jewel patterns and *pīṭhikā-bandhas* (ribbons) bedecked with jewels *(ratna-samākulā)*.[53]

The *jaṅghā* normally has a *mañcikā* (pedestal) support, in form a modified *kapotālī*. It also carries *rathikās* (framed niches) bearing in most cases standing images (Pl. 57; Fig. j). Each niche is crowned by an *udgama* (pediment), the apex of which projects across a *grāsapaṭṭī*. This is followed by the *bharaṇa* (also called *bharaṇī*)—the fluted echinus with arris — usually round, and rarely square in form. In rather rare instances a *śīrṣapaṭṭikā* (top-band) is placed above the capital; as a rule, the *antarapatra* and the *kapotālī* (at this location also called *varaṇḍikā* (come next in the sequence of mouldings, surmounted finally by a projecting *khuracchādya* (ribbed awning).

The wall terminates at this point, and the *śikhara* (spire) begins either directly above the *kaṇṭha* over the *khuracchādya* or springs from a *prahāra* (sur-socle) which is a complex of two to four mouldings. If the *śikhara* be of the *anekāṇḍaka* class (Pl. 55), it possesses a cluster of *śṛṅgas* (spirelets) around its base and *uraḥśṛṅgas* (leaning half-spires) on the cardinals, *pratyaṅgas* (companions of *uraḥśṛṅgas*), and such other minor but significant decorative members as *tilakas, kūṭas* and *kakṣakūṭakas,* each shaped after a particular kind of shrine or hall.[54] At the root of the first *uraḥśṛṅga* of an *anekāṇḍaka śikhara* is placed a *rathikā* bearing an image of a deity. It serves as a decorative feature balancing the *jāla* (lattice) of the *śikhara*. The deity

48 This feature occurs more often in temples of the late tenth and the early eleventh century.

49 The Rudreśvara temple, Prabhas Patan. Oftener, this motif is found on the *kumbha* of the *bhadra* while the *kumbha* of the *pratiratha* would show *ardharatna* and that of the *karṇa, ardhapadma.*

50 Phase II of the Somanātha temple (*c.* A.D. 1026-30), Prabhas Patan.

51 Generally speaking, this motif is of common occurrence from the later part of the eleventh century in Gujarat, but is found at an earlier date in Rajasthan temples.

52 Occurring from the later part of the eleventh century onwards.

53 From the later half of the eleventh century in Gujarat temples.

54 I have discussed the features of the *anekāṇḍaka śikhara* in detail in my forthcoming monograph, *The Principal Forms of the Indian Temple Superstructure.*

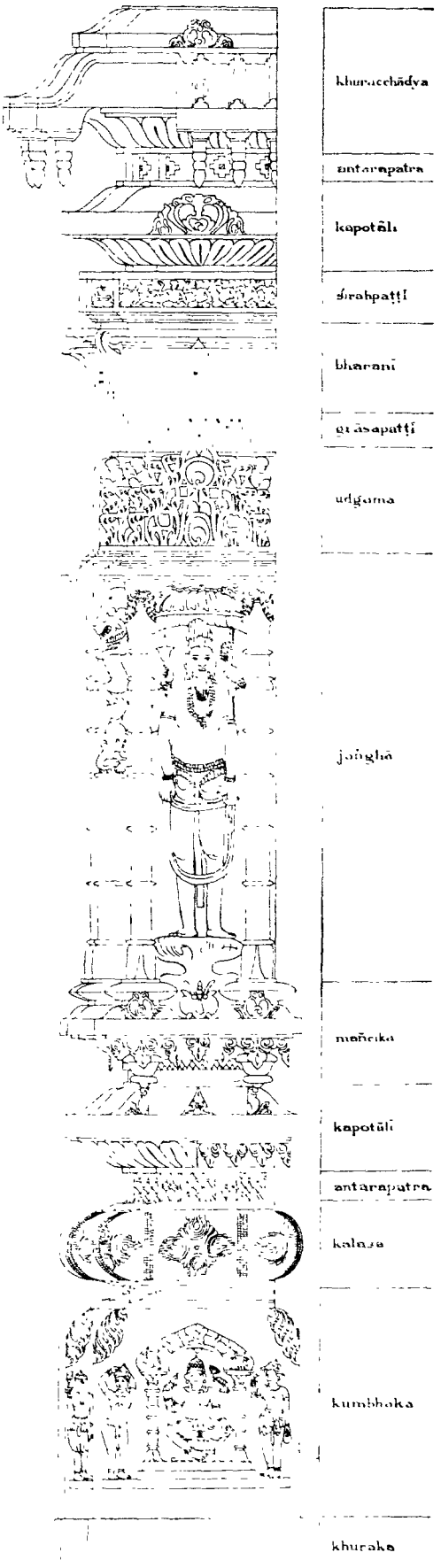

Fig. j. The *maṇḍovara* of a Māru-Gurjara temple.

proper in the *rathikā* is pertinent to the cult image. The *śikhara*, above the *grīvā* (neck), is invariably topped by a group of three members—*āmalasāraka* ("myrobalan"), *candrikā* (capstone) and *kalaśa* (pitcher finial). The *śukanāsa* (antefix to the fronton) of the *śikhara* is lodged above the *prāggrīva* (porch) —if the shrine does not possess a *maṇḍapa*—or the *kapilī* (variant: *kolikā*), that is the buffer wall between the *mūlaprāsāda* and the *maṇḍapa*.

The *sāndhāra mūlaprāsāda* possesses a *gavākṣākāra* projection (balcony) at the three *bhadras*,[55] screened in a few cases with carved grilles.[56] The *nirandhāra* shrines have, instead, a prominent *rathikā* or a *khattaka* (deep niche) which shelters a deity related to or emblematic of the presiding deity of the shrine (Pl. 55). On the *karṇas* of the *jaṅghā* are stationed the Dikpālas (Regents of the Quarters) and on the *pratirathas*, the Apsaras damsels (Pls. 55 and 57), or, as in the case of some Jaina temples, the Śāsanadevīs (Yakṣīs as well as Vidyādevīs). The *bhadra*-niche or the balconies are crowned by a large *siṁhakarṇa* (*caitya*-dormer pediment) or *ilikāvalaṇa* (miniature *toraṇa*-arch pediment) and contain a deity intimately related to the main cult image. The *salilāntaras* (stressed corners) harbour *munis* (ascetic figures). Vyālas sometimes appear, but are more or less confined to the *salilāntaras* next to the *bhadras*.

The *chanda* (rhythm, order) of the *gūḍhamaṇḍapa*, if attached to the *mūlaprāsāda*, follows the ordering of elements and decorative features of the *mūlaprāsāda* upto the *khuracchādya*. When a *raṅgamaṇḍapa* is articulated with the *mūlaprāsāda*, the nature and sequence of mouldings above the *pīṭha* change, for the very conception of the hall here is distinct from that of the *gūḍhamaṇḍapa*. It is intended to be a lighter, airy structure; hence its moulded members are shaped and adapted to the purpose they are required to serve (Pl. 58). The short walling of the *raṅgamaṇḍapa* is made of a *rājasenaka* (deep fillet) decorated with scenes from human life,[57] or most frequently with the diamond-and-double volute pattern. Next comes the *vedikā* or blind balustrade; its thin *phalakas* (vertical slabs) alternating with *stambhikā*-pillarets are decorated with foliate scrolls and geometric designs. Next comes the *āsanapaṭṭaka* (seat-slab), the outer face of which is decorated with a *kuṭākāra* (step-roof) motif. There is, above the *āsanapaṭṭaka*, a *mattavāraṇa* or *kakṣā-*

[55] The Sun temple, Modhera; the Neminātha temple, Mt. Girnar; the temple of Dvārikādhīśa, Dwarka; the Ajitanātha temple, Taranga; the Somanātha temple, Prabhas Patan; the Navalakhā temple, Ghumli.

[56] The Sun temple, Modhera, the Ajitanātha temple, Taranga, and the Sacciyāmātā temple, Osia.

[57] The dancing hall of the Sun temple, Modhera.

sana (sloping seat-back), decorated with *stambhikā*-bars and *vṛtta*-medallions bearing figural and floral motifs, sandwiched between two floral *paṭṭikā* bands. The *āsanapaṭṭaka* supports dwarf pillars of the *ghaṭapallava* (vase-and-foliage) order. These in turn support the *bhārapaṭṭa*-beams which carry a *daṇḍacchādya* (corrugated awning). The roof of the *maṇḍapa* is either of the Phāṁsanā (stepped-pyramidal) or, more frequently, the Saṁvaraṇā (bell-roof) class (Pl. 62).

The interior of the Māru-Gurjara *maṇḍapa* is often spectacular: it is in fact second to none in the comparable styles of Northern Indian temple architecture (Pl. 59). A sort of dramatic effect is achieved by the interplay of lavishly carved, slender columns with *vandanamālikās* (variant: *toraṇas*) thrown in between and *vitānas* (ceilings) of unequalled beauty.

The Rucaka (square) type of column is almost unknown in Māru-Gurjara temples. The Bhadraka (square with recesses) type is used for the most part as a wall-pilaster,[58] but the commonest variety is the *miśraka*, square or octagonal at the base, turning sixteen-sided in the middle section and *vṛtta* (circular) at the top. This order (Pl. 59) is most typical of Western India. At first glance, the decoration of these pillars may seem excessive but the orderly superimposition of the ornamented bands including the *grāsamukha* with bell-and-chain and such other motifs make them very pleasing. The orderly grouping of the pillars, moreover, around a central octagon and extensions along the cardinals acts as an effective counter-balance. It would seem that extra-ornateness is essential, not averse, to the Māru-Gurjara ideals of beauty. The overall effect is one of thoughtfully indulged exuberance matching that of the exterior of the building.

The *vandanamālikās* add to the richness of the interior. Available in two varieties, they are of the *ilikā* (caterpillar) and the *āndola* (wave) type (Pl. 59).[59]

[58] The Sun temple, Modhera. An exception is the free-standing Bhadraka pillars in the *gūḍhamaṇḍapa* of the Somanātha temple.

[59] The *ilikā* type is mostly confined to Gujarat; see the Vimala temple *(hastiśālā-toraṇa)*, Dilwara; the *trika* of the Mahāvīra temple, Kumbharia, the dancing hall of the Sun temple, Modhera, the Rudramahālaya temple, Sidhpur, the Jasmal-nāthjī temple, Asoda. The *āndola* type is known from the dancing hall at Modhera, temples at Dilwara and Kumbharia, the *kuṇḍa-toraṇa* (*c.* third quarter of the twelfth century) at Kapadvanj, the Jaina temple at Jhadoli (originally situated at Candrāvatī). The oldest known examples of the latter variety are in Rajasthan: Sāsbahu temple (*c.* late tenth century), Nagda, and the Viṣṇu temple at Kiradu, of the same date, and of the Mahā-Gurjara style with respect to the main elements.

Classified structurally, the ceilings are of three main kinds: the *samatala* (flat), the *kṣipta* (receding) and the *utkṣipta* (proceeding).[60] Mixed types are also known. According to another system of classification they fall into four groups: Padmaka, Mandāraka, Nābhicchanda (concentric) and Sabhāmārga.[61] The *maṇḍapa* is covered by a Saṁvaraṇā roof, mentioned earlier.

Beyond the *antarāla* vestibule—which lies between the *garbhagṛha* (sanctum) and the *maṇḍapa*—is the door of the sanctum. The *dvāraśākhā* (doorframe) consists of three main parts: the *udumbara* (doorsill), the *pedyā* (jamb), and the *uttaraṅga* (lintel). Or it may just be *dvāramaṇḍala* (doorway-surround) without the formal lintel. The *udumbara* almost invariably possesses a central semicircular projection, *mandāraka* (Pl. 61). This in turn is flanked on either side by a projecting *grāsamukha*. At the extremities, and supporting the *śākhā*-faces of the *pedyā*, is placed a *tilaka* or *rathikā* sheltering divinities consistent with the pantheon to which the temple is sacred. The *pedyā* itself is divided into several *śākhās* (Pl. 60), always in odd number such as 3, 5, 7 but not exceeding 9, as per injunctions of the texts and confirmed by examples in extant buildings. The first *śākhā* called *pratiśākhā* (which encompasses the doorway) is customarily of the *patra* type, the others which follow suit are the *rūpaśākhā* bearing figures, *rūpastambha* (pilaster bearing figures in panels), *siṁhaśākhā* or *vyālaśākhā*, and *khalva-śākhā*[62] or *bāhyaśākhā* (also called *pṛṣṭhaśākhā*) decorated with lotus leaves. Lodged in the *uttaraṅga* are divinities in *rathikās* of which the central one bears the image of *adhināyaka* (divinity to whom the temple is dedicated). The *lalāṭabimba* (tutelary image) is placed below the central panel, and is of Gaṇeśa in Brahmanical, and of Jina in Jaina temples. There also may be a sur-lintel bearing figures of the planetary divinities and over and above of Sapta-Mātṛ, a feature restricted to Brahmanical temples only.

VI. MAHĀ-MĀRU TEMPLES

The Mahā-Māru style though expressing itself into two schools, one called the Maru-Sapādalakṣa and the other the Medapāṭa-Uparamāla, was

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60 For a detailed discussion of ceilings, see Nanavati and Dhaky, "The Ceilings in the Temples of Gujarat," *Bulletin of the Museum and Picture Gallery, Baroda* XVI-XVII (1963), pp. 1-117.

61 *Ibid.*

62 This normally is curved, unlike other *śākhās*.

essentially homogeneous and the task of summarizing its basic characteristics presents no problems. Three clear phases, each flowing from the other, can now be ascertained. The Early Phase began from about the first quarter of the eighth century and ended about the mid-ninth century: the Middle Phase may be said to start from the mid-ninth century to end by about the mid-tenth century; and the Late Phase, a comparatively short one, covering the later half of the tenth century.

The chronology of the Mahā-Māru temples hangs on a few datable and some precisely dated temples. For the Early Phase, we have the Kālikā temple (Sun temple) and the Kumbhaśyāma temple (Śiva temple) at Chittor, in all probability founded by the Grahapati king Mānabhaṅga in V. S. 7(--), i.e., any year between A.D. 644 and 743.[63] Next we have the Mahāvīra temple of Osia, the foundation of which is attributed by an inscription of V. S. 1013/A.D. 956 to the time of Pratīhāra king Vatsarāja (*c.* A.D. 777-808).[64] The Viṣṇu temple at Buchkala was founded in the reign of his son Nāgabhaṭṭa II, and is securely dated to V.S. 872/A.D 815.[65] For the late phase, the date of the Harṣanātha temple at Sikar, which can be ascertained by its well known inscription that was composed between A.D. 956-73, provides the sheet anchor. The stylistic considerations with dated temples serving as guide-posts have been utilized in building up the chronology of the Mahā-Māru temples proposed by me in the annexed Table I elsewhere provided on (pp. 144-145).

A. *Early Phase—the Maru-Sapādalakṣa school.*

Temples belonging to the Early Phase of the Mahā-Māru style are mostly Latina in form, *tri-aṅga* but also *dvi-aṅga* on plan (Pl. 66; Pls. 63, 64)[66] and customarily stand on a *jagatī*. Depending upon the size of the

[63] For the text of the inscription, see R.C. Agrawal, "Cittauḍa kā eka aprasiddha śilālekha" (in Hindi), *Rājasthāna Bhāratī* IX, No. 2, pp. 30-1. It refers not only to the Sun temple, but also to a Śiva temple. The Sun temple is the Kālikā temple, while the Śiva temple is the Kumbhaśyāma temple (converted into a Viṣṇu temple in Kumbhā's times). These inferences can be made from the phrase "*kīrtti-bhāsaprabhe ca tripura-vijayaṁ* . . . . ". In comparison with the Śītaleśvara temple at Chandravati near Jhalrapatan these temples seem more advanced and must belong to the second quarter of the eighth century. . .

[64] D.R. Bhandarkar, "The Temples of Osia," *ASIAR* 1908-09, pp. 100-115.

[65] Bhandarkar, *PRASIWC* 1907, p. 38.

[66] The *dvi-aṅga* temples are rather rare; among the few is the Śiva temple buried in the sand at Osia, and the Viṣṇu and Devī temples at Buchkala.

temples (though this is not the rule), the *maṇḍapa* may just be a *prāggrīva*, or of the *raṅga* type, but rarely of the *gūḍha* type; in the latter case the temple is of the *sāndhāra* variety, though these again are rather rare in the Mahā-Māru style.[67] The *jagatī* of a Mahā-Māru temple is constituted by an amplified *vedībandha* sometimes embellished with large niches (bearing images) at intervals on the *kumbha*, and vegetal ornament such as the *tālapatrā* (palmette) of two varieties or, rarely, a foliate scroll[68] accommodated within the broad *antarapatra*. The *mūlaprāsāda*, as a rule, has no *pīṭha*, but occasionally a *bhiṭṭa* or two, topped by a *cippikā* (minor inverted cyma recta). The *vedībandha* of the *kaṭi* (wall proper) of the shrine consists of bold and heavy mouldings, whereas the *antarapatra* is ornamented with leaf or check-pattern. Oftener, the *kalaśa* of the *vedībandha* is interrupted by a *tulāpīṭha* showing five or more projecting rafter-ends adorned with conventional decorations, figural or floral (Pl. 66).[69] The *jaṅghā* is almost invariably adorned with figures of the Aṣṭa-Dikpālas on the *bhadras:* the *parikarma* frame of the *rathikā* consists of a pedestal carved with lotus petals, miniature *ghaṭapallava* pilasters and an elongate *udgama* (Pl. 66), the fret of which is made up of small *induśālikās* with grooved and chamfered border. The *jaṅghā* is followed by the *varaṇḍikā* and a broad *kaṇṭha* decorated with either *kṛṣṇa-līlā* scenes[70] or episodes from the *Purāṇas*.[71] The *pratiratha* part on the *jaṅghā*, in rare cases, carries a vase-and-foliage pilaster as a substitute for the *rathikā*.[72]

The *śikhara* in earlier temples consists of four to five *bhūmis* marked by *karṇāṇḍakas* (corner *āmalakas*) embedded at intervals in the *veṇukośa* or end-profile of the *śikhara* which carries the *rekhā*. The middle face of the *śikhara* carries one or three *latās* (literally creepers, salients) in *dvi-aṅga* and *tri-aṅga* temples respectively. The *madhyalatā* or central shoot (also called

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67 The Kālikamātā and the Kumbhaśyāma temple at Chittor, the Mahāvīra temple, Osia, and the Harṣatmātā temple, Abaneri.

68 Harihara temple No. 2, Osia.

69 This is a feature characteristic of all the styles originating from the Mahā-Nāgara style of the Gupta-Vākāṭaka period. Some of the Nāgara temples in Karṇāṭa (at Alampur and Pattadkal), and the early temples of Kaliṅga, also possess this feature. Most of them pre-date the existing Mahā-Māru examples.

70 Harihara temples Nos. 1, 2, 3, and the smaller Viṣṇu temple, Osia.

71 The Old temple, Lamba.

72 This feature is found in the two smaller temples at Chittor and also the old temple near the Mahānāleśvara temple at Menal. In Central India, a temple of comparable style and age is on the slope of the hill at Bandhogarh.

pañjara, literally cage) is in rare instances flanked by a second, inner *veṇukośa* which takes the place of the subsidiary *latās* (sometimes called *bālapañjaras*). The *āmalasāraka* and the *kalaśa* need no comment. The *śukanāsa* of the *śikhara,* excepting the Auwa temple, invariably has a *śūrasena*-mask on its face.

The *raṅgamaṇḍapa* possesses a *vedikā, āsanapaṭṭaka,* and a *mattavāraṇa* with *gajamuṇḍas* (elephant-heads) projecting at the post-points. The dwarf pillars are of the Rucaka or the *ghaṭapallava* type. In a spacious *raṅgamaṇḍapa* there are generally four centrally situated pillars, encompassing the *śālā* (nave)[73] or a row of three to four pillars if the plan of the hall is oblong.[74] The pillars are either of the Bhadraka type, or the *ghaṭapallava* type with an additional vase-and-foliage member at the base as well. The floor of the *jagatī* also serves as the floor of the *maṇḍapa*. The rear ends of the *raṅgamaṇḍapa* are left unconnected (open). This permits circumambulation of the *mūlaprāsāda* from the *maṇḍapa* itself.

The ceilings of the hall, particularly in the *mukhacatuṣkī, śālā,* and *antarāla* are carved; they are of the *samatala,* or *utkṣipta* type formed by *kola* courses. The *nāgapāśa* motif is generally reserved for the ceiling over the *antarāla;*[75] while a full-blown lotus is to be seen on a *samatala* ceiling of the *mukhacatuṣkī*. A ceiling of the Nābhicchanda order is favored for the *śālā*. The Mahā-Māru temples at Osia show a variety of ceilings within these classes. Those in the Kālikā temple at Chittor are all of the *samatala* type, but richer, more sophisticated and graceful than the Osian examples. In rare cases, the *pārśvālinda* (aisle) is covered by *valikās* (rafters) instead of flat ceilings in simulation of timber construction.[76]

The hall in Mahā-Māru temples has no superstructure, though it must have been present in the Harṣatmātā temple at Abaneri. The absence of this member reacts unfavourably on the architectonic balance of the whole.

The door-frame of the early Mahā-Māru temple is sumptuously decorated. The *triśākhā* (three-jambed) and also the *pañcaśākhā* (five-jambed) varieties are commonly seen (Pls. 80, 82). Besides the *patraśākhā,* a *nāgaśākhā* jamb bearing a pattern of entwining snakes, a *mālāśakhā* jamb in the shape of a floral garland, the *mithunaśākhā* bearing couples (normal or in

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[73] Harihara temple No. 3, Osia.

[74] The Sun temple, Osia, and the Old temple at Lamba.

[75] The Sun temple on the hill and Harihara temple No. 1, both at Osia.

[76] The *trika* of the Mahāvīra temple, and Harihara temple No. 3, Osia.

amorous attitudes), and a *rūpastambha* decorated with vase-and-foliage members above and panels below constitute a typical sequence, though variations in the positions of the *śākhās* are frequently found (Pl. 80). *Pratīhāra* attendants and images of Gaṅgā-Yamunā appear in the lower part of the *pedyā*. The *udumbara* is also richly carved, with *maṅgala ghaṭas, mālādharas, simha* figures, *kīrttimukha*-masks and the like. Generic connections with the temples of the Gupta period on the one hand, and the temples of the Pratīhāra age in Madhyadeśa and the Daśārṇa-Cedi-Mālava country on the other are borne out by these doorframes. The *uttaraṅga,* when present, is carved with *rathikās.*[77]

The range of ornament and iconographic representations associated with the early Mahā-Māru temple is fairly extensive. Nāgas and Vidyādharas, Gandharvas and *malādharas,* foliage of various kinds, lotus, and elegantly convolving creepers are present: and, despite the over-abundance, a skilful blending of the motifs and designs is achieved in individual compositions as well as the decor of the whole so that the Mahā-Māru temple seems a significant achievement of decorated architecture. It, in fact, reflects the stage of "early maturity" of the Northern Indian temple style.

B. *Middle Phase—the Maru-Sapādalakṣa School*

To the Middle Phase belong but few temples. The wall is decorated in almost the same manner as in the Early Phase but the check-pattern is now more favored. The pillars are more refined and a few new *śākhās* are introduced in the door-frame such as the *rūpa* and the adventitious *vyālaśākhā* which encompasses the whole door-frame. The ceilings lose some of their boldness, and with it, archaism. The Kāmeśvara temple at Auwa, the Mahādeva temple at Bhundana (Pl. 70), and a couple of newly discovered temples such as the Nakṭimātā temple at Shivapura near Jaipur and another one in the Nagor area are of this phase.

C. *Late Phase—the Maru-Sapādalakṣa School*

The Late Phase represents the quintessence of the Mahā-Māru style which is now at its most florid. While the basic principles of planning hardly made any advance, the attempts at monumentality and a very good

[77] The Sun temple, Osia.

taste in the arrangement and selection of patterns and motifs (despite the virtuosity) are at once discernible. The carvers seem to have striven to attain perfection in the execution and distribution of decoration. Their repertoire was drawn from the same source, but with what extraordinary refinement they wrought it now! The *vedībandha* mouldings of the *mūla-prāsāda* are still heavy and archaistic, but in the Maru-Sapādalakṣa school the *jaṅghā* decidedly betrays some changes. (There will be an occasion to refer to this development in the section on genesis.)

The finest examples of this school are the Nīlakaṇṭheśvara temple at Kekind (Pl. 72) stylistically attributable to the time of Siṁharāja I,[78] the Harṣanātha temple at Sikar, the older parts of which are perhaps datable to A.D. 956 (and thus to the period of the same ruler), and the pillars and ceilings of the Lakṣmaṇasvāmī temple of Nadol (*c.* third quarter of the tenth century) which were transferred in the seventeenth century to Sadri and now form part of the Jāgeśvara temple there. Nadol was the southernmost outpost of the Maru branch of Mahā-Māru style.

D. *Early, Middle and Late Phases of the Medapāṭa-Uparamāla School*

The notable examples of the Early Phase are the two Brahmanical temples at Chittor whose builder, as I said earlier, could be Mānabhaṅga who preceded the Guhila, Bāppā Rāvala. They are also among the very largest of the buildings in the Mahā-Māru style. The Kālikāmātā temple which originally was dedicated to Sūrya and a *sāndhāra* temple with balconied ambulatory (and also a balconied closed hall) is located on a large *jagatī* platform. The temple is without a *pīṭha* but has a *vedībandha* used in lieu of the former as stylobate. The niches on the *vedībandha* as well as on the *jaṅghā* possess tall *udgamas*. The vase-and-foliage pillars and pilasters seem a little different when compared to those of Osia temples. The *śikhara* must be of the Osia type as suggested by the fragments seen around. The second one, the Kumbhaśyāma temple, was originally a Śiva temple and has undergone renovation in the fifteenth century, in the time of Mahārāṇā

[78] R.C. Agrawal, "An Interesting Inscription of Cauhāṇa Siṁharāja," *Indian Historical Quarterly* XXXVII (1961), pp. 78-80. The inscription under reference is of V. S. 1013/A.D. 956 from the Śiva temple at Pithanwala near Medta city. Kekind is situated within Medta territory. The Kekind temple may be a part of the theistic activities going on in this locale of the Cāhamāna monarch, precisely around this period.

Kumbhā when the present *śikhara* above the sanctum and the Saṁvaraṇā above the hall were constructed. While the exterior of this temple broadly resembles that of the Kālikāmātā temple, the Rucaka pillars of the hall show a patterning that is different from what is seen in the former temple.

Sometime after the two royal foundations of Mānabhaṅga, a few more temples were built in the Medapāṭa-Uparamāla branch of the Mahā-Māru style at Chittor. They are the temples of Kṣemaṅkarī in the *kuṇḍa* (tank) of the early or mid-ninth century, and a temple north of the Samidheśvara, of about the same age. These are stylistically no less interesting than the Mānabhaṅga temple, much smaller though they certainly are. The peculiarity of these temples is that a sort of pseudo-*pīṭha* is tightly articulated as a support, being formed by the *vedībandha* mouldings without the *kalaśa*.

The Middle Phase of this school is best represented by the seven temples at Amvam, of about the later part of the ninth century. The decorative details, though much the same, nevertheless register a decline. The *jaṅghā* of some of the temples is plainly treated. The *udgama* is, in some cases, of a shorter variety.

The old temples at Mandalgarh are also attributable to this period. One of them possesses a double, elongate *udgama* reminiscent of contemporary examples from Central India such as at Barwasagar.

Curiously enough, the few temples belonging to the Late Phase and datable to the first half of the tenth century, unlike their counterparts of the Maru-Sapādalakṣa school, tend to preserve older features such as the elongate *udgama*, as for example in the Sun temple at Budhadit (mid-tenth century). The *śikhara* of this temple has been reconstructed in part with the older, original carved material.[79]

Table I

CHRONOLOGY OF MAHĀ-MĀRU TEMPLES

PHASE	DATE	SCHOOLS	
		MARU AND MARU-SAPĀDALAKṢA	LOWER MEDAPĀṬA-UPARAMĀLA
EARLY	725		Kālikāmātā and Kumbhaśyāma temples, Chittor
	750	Śiva temple, Pipad Viṣṇu temple, Mandor Sun temple (No. 1) on Sacciyāmātā Hill, Osia	

[79] *Cf.* L.K. Tripathi, "The Sun Temple at Budhādit," *Bhāratī*, No. 9, pt. II, pl. VIII.

Table I—*Contd.*

PHASE	DATE	SCHOOLS	
		MARU AND MARU-SAPĀDALAKṢA	LOWER MEDAPĀṬA-UPARAMĀLA
EARLY (*contd.*)	775	Harihara temple No. 1, Osia Viṣṇu temple No. 1, Osia Mahāvīra temple, Osia Larger Sun temple No. 2, Osia Sun temple No. 3, Osia Harihara temple No. 2, Osia Harihara temple No. 3, Osia Old temple, Lamba	
	800	Harṣatmātā temple, Abaneri	
	825	Śiva temples Nos. 1 and 2, Osia Piplāmātā temple, Osia Viṣṇu temple No. 2, Osia Śiva temple, Buchkala Sun temple, Nosal Pārvatī temple, Buchkala (A.D. 815)	Temples of Kṣemaṅkarī in the *kuṇḍa*, Chittor Temple No. 1 to the north of Samidheśvara temple, Chittor
MIDDLE	850	Kāmeśvara temple, Auwa Mahādeva temple, Bhundana	
	900	Temple of Jvālāmukhī, Phalodi Temple of Kṣemaṅkarī, Shivapura	Eight temples, Amvam Rock-cut temple, Dhamnar Temple at Mandalgarh
	950		Sun temple, Budhadit
LATE	975	Nīlakaṇṭheśvara temple, Kekind Lakṣmaṇasvāmi temple of Nadol, Sadri Harṣanātha temple, Sikar (A.D. 956-73)	

VII. MAHĀ-GURJARA TEMPLES

The Mahā-Gurjara style diversified into three principal variations, those of Ānarta, Arbuda and of lower Medapāṭa, before it closed its career. Of these, the Ānarta possesses the oldest temples, datable to the later part of the eighth century. The style, moreover, enjoyed an unbroken continuity there till about the third quarter of the tenth century. The temples of the Arbuda school, on available evidence, range in date from the late ninth to the middle of the tenth century, Abu representing the extreme northern limit of the Mahā-Gurjara style in the earlier part of its history. The temples of the Medapāṭa school were founded, with two exceptions,[80] in the second half of the tenth century.

Among temples whose date is fixed by inscriptions, none belongs to either the Ānarta[81] or the Arbuda school.[82] In Medapāṭa, fortunately, there are three securely dated temples, dedicated to Durgā Kṣemaṅkarī (A.D. 960) at Unwas,[83] Ambikā (A.D. 961) at Jagat,[84] and Lakulīśa (A.D. 972) at Eklingji.[85] The pedestal of the *mūlanāyaka* (cult image) which had an inscribed date of V.S. 1010/A.D. 954 in the temple of Mahāvīra at Ghanerao was replaced some years ago. The style of the temple otherwise agrees with that date. A short fragmentary inscription of V.S. 1017/A.D. 961 on the door-frame of the Jaina temple at Nana helps fix the upper limit of the date of the older parts of this temple.

With the help of these dated temples, a critical analysis of the style, and by reference to the temples of a known date in the Mahā-Māru style, a plausible chronology of the important temples in the Mahā-Gurjara style, was worked out by me some time ago in a paper where I also dealt with

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80 These temples are at Pipal and Chittor, the former being a rather simple structure. The *jāla* of its *śikhara* reminds one more of the Surāṣṭra version than the Mahā-Gurjara style proper. Both examples are datable to the early ninth century.

81 Even mason-marks have not been traced on these temples.

82 The Mudageleśvara temple at Mungthala contains an inscription of V.S. 895/A.D. 839, but the temple itself is so simple that the fact that it is dated is of little use.

83 R.C. Agrawal, "Unpublished Temples of Rajasthan," *Les arts asiatiques* XI (1965), p. 56.

84 R.C. Agrawal, "Khajuraho of Rajasthan: The Temple of Ambika at Jagat," *Les arts asiatiques,* X (1964), pp. 43-65.

85 R.C. Agrawal, "Inscriptions from Jagat, Rajasthan," *Journal of the Oriental Institute* XIV (1964-65), pp. 75-78.

what is here called the Ānarta school.[86] Information regarding the chronological position of the Mahā-Gurjara style and its sub-schools has been summarised in Table II (pp. 151-152).

The Māha-Gurjara temples, on the basis of style, can be conveniently classified, like the Mahā-Māru ones, into the Early, Middle, and Late Phases. I will now present the broad characteristics of each of these schools.

A. *Early Phase*

The important temples are confined to the Ānarta school, though there will be an occasion to refer to one solitary example, at Chittor, of the Lower Medapāṭa school. These are all Latina shrines, mostly *tri-aṅga* (Pl. 67) and rarely *dvi-aṅga* (Pl. 65) on plan. A solitary instance of a *sāndhāra* variety is known from Shamlaji (Viṣṇu temple). Generally speaking, they possess a *pīṭha* consisting in some cases of merely a *paṭṭikā* band above a *bhiṭṭa,* but in most cases a rudimentary *jāḍyakumbha* is to be found between the latter two mouldings. A solitary instance of a temple having a *kumuda* (torus) above the *jāḍyakumbha* and *kapotikā* is known from Chittor (Fig. i. 24) The *paṭṭikā* is sometimes ornamented with a chain-and-leaf pattern. The *vedībandha* is heavy but well-chiselled [87] The *jaṅghā* is left undecorated except for a niche on each *bhadra* (Pl. 65). The *udgama* atop the niche is invariably of the shorter type. There is a single instance, Temple III at Roda, where the *pratiratha* part is treated as a pilaster (Pl. 69). The *mālā* moulding above the *jaṅghā,* wherever present, either shows a chain of lotuses in semicircles,[88] a chain-and-leaf pattern,[89] or a *grāsapaṭṭikā.*[90] The *śikhara* is carved with a bold *jāla* pattern, always carefully finished. The *maṇḍapa* is most frequently of the *prāggrīva* type, though the *raṅga* and the *gūḍha* are known as is shown by the solitary examples from Shamlaji.[91] The Maithan temples (in Saurashtra) also have a detached *raṅgamaṇḍapa* in front. The free standing pillars are of the Rucaka order, very beautifully carved on the upper portion (Pl. 85). The *vedikā* is rarely featured in

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86 "The Chronology of the Solanki Temples of Gujarat," *Journal of the Madhya Pradesh Itihas Parishad,* No. 3 (1961), pp. 1-83.

87 The *antarapatra* of Temple III at Roda is carved with an exquisite foliate scroll.

88 Temple I, Roda.

89 Temple III, Roda.

90 Temple VIII, Roda, now disappeared, and the Old temple at Dhrumath.

91 Hariścandra-nī Corī and the Viṣṇu temple.

Mahā-Gurjara temples.[92] The dwarf pillars above the *āsanapaṭṭaka* of the *vedikā* are of the Rucaka type.[93]

The exquisitely carved ceilings of these temples are either of the *samatala* type or of the Nābhicchanda class.

The *prāggrīva*, or the full-fledged *maṇḍapa*, is topped invariably by a roof of the Phāṁsanā class. The *rathikā* of the *siṁhakarṇa* of the *śūkanāsa* customarily bears the image of a seated divinity pertinent to the deity in the sanctum.

The doorframe of the Early Mahā-Gurjara temples is always singled out for the greatest attention by the sculptors. It is either of the *triśākhā* (Pl. 83) or of the *pancaśākhā* variety (Pl. 81) and consists of *patraśākhās* of three varieties; *ratnaśākhā* with diamond decoration[94]; *vyalāśākhā;* a *rūpa-stambha* with bold, fluted *laśuna*, *ghaṭa* and *maṇḍī;* and a *bāhyaśākhā* carved with lotus leaves, sometimes further enriched with fanciful designs. The centre of the *udumbara* has a figural motif within a semicircle. At the extremities are depicted the *maṅgala ghaṭa* and a figure of Dhanaputra (son of Kubera) The *uttaraṅga* of the *pañcaśākhā* variety shows *kūṭākāra rathikās* harboring divinities, the central one containing an image which is a reflection of the main deity in sanctum.[95]

Early Mahā-Gurjara temples are to be distinguished from contemporaneous temples in the Mahā-Māru style in respect of the following features: the presence of a *pīṭha;* absence of images on the *jaṅghā* save in the *bhadra*-niches; shorter *udgama* above the niche; articulation of the *pratiratha* not as a *ghaṭapallava* pilaster (which is ultimately of Gupta extraction) but by a type reminiscent of the Rāṣṭrakūṭa Deccan (*cf.* Pls. 68 and 69); absence of free standing true *ghaṭapallava* pillars in the *maṇḍapā;* presence of a Phāṁsanā roof of the porch or hall, and its being luted with the *śukanāsa* and not independent of it; large *siṁhakarṇa* of the *udgama* type and not of the *śūrasena* antefix; chamfered but ungrooved border of the *induśālikās* of the *jāla* of the *śikhara* and of the *udgama;* absence of the double *veṇukośa;* and the positioning of the flag-staff on the right *bāla-pañjara* of the *śikhara* instead of on the left one.

The doorframes, too, of these two styles, when placed side by side,

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92 Temple VIII, Roda possessed a *vedikā*.

93 Temple VIII at Roda and one of the three temples at Maithan.

94 Temple III, Roda. This motif is known earlier in the Varāha temple, Kadwar, and the Old temple at Pata, both in the Surāṣṭra style, and datable to the early seventh century.

95 The Old temple at Than has images of the planets in the panels of the *uttaraṅga*.

stand in sharp contrast (*cf.* Pls. 80 and 81; 82 and 83). The *mandāraka* is absent from the doorsill of Mahā-Gurjara temples. Nor is there that richness and variety of figural sculpture characteristic of the Mahā-Māru door-frame. Even the motifs common to both styles are otherwise rendered in distinctly different manners. The *mithunaśākhā* and the *nāgaśākhā* are also absent, the former occurring only in the Middle Phase, as at Varman, where it is a feature adopted from the Mahā-Māru tradition. Figures of *pratīhāras* and also of Gaṅgā and Yamunā do not occupy the prominent position they do in Mahā-Māru temples.

A careful analysis makes it clear that the two styles belong to different sensibilities, if not to altogether different worlds of art. In the Mahā-Māru style the temple-body is treated as though it is a monolithic mass sculpted out from living rock. Its decorations are reminiscent of those possible in a brick-and-stucco tradition; they seem appliqué-like, with the carved ornamentation clothing the temple under a richly embroidered veil. The Mahā-Gurjara style, in this respect, behaves altogether differently. It pays careful attention to masonry, emphasizes clean cut blocks, and stresses the beauty of joinery; so that the temple is comparatively structural in intention, look and feeling. The treatment thus is "architectonic" or "architectural" and not "sculpturesque" as is the case with the Mahā-Māru style. Since images are few, a paucity of iconographic detail is quite natural. Nor can the figure sculpture that is present be said to be of the highest quality. But the deeply undercut, imaginative floral decoration, more particularly that of the doorframe, is impressive and evocative. The decoration of Mahā-Māru temples reveals an extensive repertoire notable more for the charm of the basic patterns rather than their execution. They look derivative and often seem degraded versions—sometimes variations—of Gupta themes. Mahā-Gurjara ornamentation, by contrast, shows freshness and vivacity: it sparkles with life, its basic drawing subtler and curves superior. In quantity it is sparse but its architectural setting is ideal, and each serves the other.

B. *Middle Phase*

The Middle Phase which stretches from A.D. 850 to 950 does not have many examples of the Ānarta school. The Roda-Shamlaji conventions continue, but the figures now show the beginning of truly medieval idioms; the *jāla* of the *śikhara* also sheds the archaism of the Roda-Shamlaji-Maithan examples of the Early Phase.

It is the Arbuda school which now displays the real splendors of the Mahā-Gurjara style, particularly in its magnificant interiors. The three notable and sufficiently large temples at Varman, Kusuma, and Bithu have Rucaka pillars with delicately stencilled patterns and medallions, a type unknown in the Ānarta school, but have some connections with Saurashtra examples, and still earlier with the early Gupta temple at Mukundarra.[96] The other variety, vase-and-foliage pillars, though not so rich in their accoutrements, are still good in detail. The doorframe of the Sun temple at Varman is a direct descendant of the one found in Roda Temple III; the socle shows the same relationship. The Kusuma and Bithu temples, though very damaged, reveal several features characteristic of this style. (However, the presence of a *siṁhakarṇa* above the doorway of the sanctum is exceptional.) The *sāndhāra* temple of the Sun at Varman reminds us of the Sun temple at Kanthkot of the Ānarta school in matter of plan, otherwise being a building much superior to the Kanthkot one in several respects.

C. *Late Phase*

In many ways the Late Phase is the most glorious in the history of the Mahā-Gurjara style, the Anarta and Medapāṭa schools being also prolific in output. While the Latina form continued to be favored, the *anekāṇḍaka* seems to have come into its own. The introduction of the *samadala pratiratha* plan, at Kotai and Jagat particularly, made it possible to design very effective *anekāṇḍaka śikharas*. The *pīṭha,* now, is boldly done, and shows a greater number of elements, a feature which I will discuss shortly. The *kumbha* of the *vedībandha* begins to be decorated with figure work, floral loops-and-birds, and at the end of this phase, by half lotuses and stencilled half diamonds. The *jaṅghā* in most cases, shows the full retinue of images with Dikpālas and Apsarases, Gandharvas and Vidyādharas, and elephants and *vyālas,* the latter—generally speaking—lodged in the *salilāntara* recesses.

The ceilings and doorframes still continue to follow older conventions, but with a difference; the detail tends to lose its boldness; and the execution becomes more delicate if not finicky.

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[96] This is most noticeable in the rendering of the *siṁhakarṇa*. The dwarf pillars of the *raṅgamaṇḍapa* at Auwa are related in a derivative way to those in the Kālikā temple, Chittor.

The Phāṁsanā of the *maṇḍapa* reaches its apogee in this phase. The *jāla* of the *śikhara* was never to be excelled in the epochs that were to follow.

The productions of the Arbuda and Medapāṭa schools are more ornate than the contemporaneous buildings of the Ānarta school. Love of the ornate was endemic to the soil of Rajasthan, and it infected the restrained Mahā-Gurjara style also. It is also during this phase that the Mahā-Gurjara style extends itself into the area proper of the Mahā-Māru style. Furthermore, in an indirect way, its ideals and idioms began to influence (perhaps through the Cāhamāna channel) the two major styles of Central India, those of Jejākabhukti and Cedi-deśa so that the older, Daśārṇa elements began to dissolve and disappear, as is obvious from the Lakṣmaṇa temple at Khajuraho or temples of comparable date in Ḍāhala-deśa.

Table II

CHRONOLOGY OF MAHĀ GURJARA TEMPLES

PHASE	DATE	SCHOOLS		
		ĀNARTA	ARBUDA	MEDAPĀṬA
EARLY	775	Demrā-nuñ Ḍeruñ temple at Lakroda Temple I, Roda Temple II, Roda Temple III, Roda Temple IV, Roda Temple VI, Roda		
	800	Old Temple, Than		
		Temple VIII, Roda Hariścandra-nī corī, and the *sāndhāra* temple, at Shamlaji		Temple No. 2 to the north of Samidheśvara temple, Chittor (with overtones of Mahā-Māru)
	825	Three temples at Maithan		
MIDDLE	875	Temples at Matoda		
	900	Rāṇakadevī temple, Wadhwan; Five temples, Dedadara Rāṇī Rājai's temple, Puaṁ Rā'no gaḍh	Viṣṇu temple, Bithu (with Mahā-Māru inflexion). Śiva Temple, Kusma Brahmāṇasvāmī temple, Varman	
	925	Sun temple, Kanthkot Raṇachoḍjī temple, Shamlaji		

Table 11 – *continued*

CHRONOLOGY OF MAHĀ GURJARA TEMPLES

PHASE	DATE	SCHOOLS		
		ĀNARTA	ARBUDA	MEDAPĀṬA
LATE		Trinetreśvara temple, Than Śiva temple, Kotai Sun temple, Kotai Lākheśvara temple, Kerakot Āmthermātā temple & Śītālāmātā temple, Vadanagar		
	950			
		Mātā temple, Kaḍeśvarinī-naḷ Somanātha Phase I temple *Toraṇa* at Shamlaji	Aruṇeśvara temple, Kasindra Temple of Rakhikisan, Abu Rd.	Mahāvīra temple, Ghanerao (A.D. 954) Pārśvanātha temple, Pali Durgā temple, Unwas (A.D. 960) Ambikā temple, Jagat (A.D. 961) Śobhalade temple, Saladdhipur
	975	Muni Bāvā temple, Than	Sun temple, Vasantgarh	Lakulīśa temple, Eklingji (A.D. 972) Viṣṇu temple near Eklingji
		Bhaḍeśvara temple, Anjar Nīlakaṇṭheśvara temple, Someśvara temple and Caturbhuja temple, Nadol		Brahmāṇīmātā temple Phalodi Viṣṇu temple, Kiradu Sāsbahu temple, Nagda Mīrā temple, Ahar Mahāvīra temple, Ahar Devakulikā No. 1 at the Mahāvīra temple Osia Devakulikā No.1 at the Sacciyāmātā temple Osia
	1000			Śiva temple, Iswal

VIII. THE GENESIS OF THE MĀRU-GURJARA STYLE

The sources of an artistic style are in most cases complex, the mechanism by which it comes into being very subtle, and the actual process highly complicated. The Mahā-Māru and the Māhā-Gurjara styles had reached, by A.D. 975, the utmost possibilities of their development. Had they been left uncrossed, the fate of each one of the two styles would have been not unlike that of the sedentary style of Jejākabhukti best exemplified at Khajuraho. For understanding the actual process and the various stages of development of the Māru-Gurjara style it is necessary to go back and trace its beginnings as revealed by the monuments themselves.

At certain key centers, each style tended to maintain a virginal purity; the Mahā-Māru at Osia and Mandor, the Mahā-Gurjara at Roda and Shamalaji. At some other places, each style is seen to affect the other. Consider, for instance, the off-shoot in Panchal, Saurashtra, of the Ānarta school of the Mahā-Gurjara style. Although faithful to its own conventions, it did not hesitate in absorbing a few formal and decorative elements of the Mahā-Māru tradition. Take in this context the example of the Old temple of Viṣṇu near Than. The presence of a *ghaṇṭamālā* (bell-and-chain) ornament over the wall, a *ghaṭapallava* member in the *stambhaśākhā* or *rūpastambha* of the door-frame, a stencilled *udgama* crowning the niches, and a *śūrasena*-face for the *śukanāsa*, all these features distinguish it from the Roda-Shamalaji group. One other temple, that at Dhrumath near Dhrangadhra, shows a peacock-motif on the *kapota* (*cf.* the Old temple, Lamba). A third temple, now at Maithan in the same area, like the Than temple, shows *ghaṭapallava* element in the doorframe (Pl. 86). All this would indicate some sort of contact between this part of Saurashtra and Marumaṇḍala even though the style itself is not directly imitative. It is also interesting to note that these acquired features were apparently not transmitted to the temples of the late ninth century found in the adjoining Wadhwan territory which faithfully follow the tenets of the Roda-Shamalaji school. On the opposite score, in Rajasthan, the Kālikā temple at Chittor which is a work in the Mahā-Māru style, shows a few typical features of the Mahā-Gurjara style. Among these may be mentioned medallions and volutes of the Roda type found below and above the vase-and-foliage member in the pillars of the *gūḍhamaṇḍapa*, and the fluted *laśuna*, *ghaṭa (āmalaka)* and *maṇḍi (bharaṇa)* in the *stambhaśākha* of the doorframe. The Kāmeśvara temple at Auwa (mid-ninth century), the contemporary rock-hewn temple at Dhamnar and the earlier Harṣatmātā temple at Abaneri betray

familiarity with some of the techniques of the Mahā-Gurjara style.[97] This early contact no doubt prepared the ground for a smooth merger of the two styles in a later period, but many other things occurred before this actually happened.

To Ānarta once again. The focal centers of the Ānarta school and its later products were more or less unaffected by Mahā-Māru idioms till about A.D. 975. This is because Ānarta falls in the inner belt of the Mahā-Gurjara style, the outer belt being formed by the Arbuda and the Lower Medapāṭa schools which shared a common frontier with the Mahā-Māru style and thus had earlier and greater chances of receiving its influences. Arbuda was exposed both to Māru and Sapādalakṣa on the one hand and upper Medapāṭa-Uparamāla on the other; but the first impact of the Mahā-Māru style was of an indirect nature. It is seen in the Brahmāṇasvāmī temple at Varman (late ninth century) in the presence of such elements as the *gajamuṇḍa* in the *mattavāraṇa*, the peacock-motif on the *kapotāli*, the *ghaṭapallava* pillar and the sixth adventitious *śākhā* (*cf.* Auwa) of the doorframe. Later on the Aruṇeśvara temple at Kasindra (mid-tenth century) of the same school adopted *gajamuṇḍa* brackets in the *karoṭaka* (in lieu of the Vidyādhara brackets found in the temples of the Ānarta school: *cf.* the Muni Bāvā temple). This last feature is also noticeable in the *karoṭaka* of the Mahāvīra temple at Ghanerao. In this temple efforts were made to depict the full complement of the Daśa-Dikpālas, the additional Dikpālas being accommodated on the facade of the *gūḍhamaṇḍapa* in a manner reminiscent of the Mahā-Māru architect's attempts to do so in the context of a *mūla-prāsāda*. But in all such cases of adoption, the prevailing idiom is Mahā-Gurjara. Nor was this traffic onesided. A temple with some Mahā-Gurjara features, particularly the doorframe, was built at Harsha (in the late ninth century) and at Pali (the Pārśvanātha temple, mid-tenth century), being examples of the Arbuda and the Lower Medapāṭa schools respectively. Nevertheless I cannot omit mentioning the curious interior of the *gūḍha-maṇḍapa* of the Pali temple built purely in the Mahā-Māru tradition with massive vase-and-foliage pillars and also the side ceilings with typical Mahā-Māru type of *kola* courses. (The *karoṭaka* is a later addition). Apparently guilds practising two independent traditions worked here side by side.

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[97] Noticeable in the rendering of the *udgama* and the *siṁhakarṇa* motifs. The *mukhapaṭṭī* of the individual *caitya*-dormer element is not hollowed out but only marginally grooved.

The occurrence of Mahā-Gurjara temples in Mahā-Māru territory indicates that the style had by now become sufficiently powerful to make further advances, which it soon was to do. Meanwhile in the home country it began to develop new features, some out of its own accord, others under Mahā-Māru inspiration, which in turn were sent out in the direction of the Mahā-Māru territory. This complex movement will find mention in the analysis I will make a little later.

To turn to the forward march of the style once again: the movement was two-forked, one across the upper Māru land, the other through Sapādalakṣa and as far as the environs of Alwar. The first achievement was the conquest of Nadol. Earlier, the Lakṣmaṇasvāmī temple founded in Nadol, possibly around A.D. 969, was in the pure Mahā-Māru style, but the Nīlakaṇṭheśvara, and the Someśvara temple (identical in plan and elevation), built possibly towards the close of tenth century at the same time show numerous Mahā-Gurjara nuances. They have a plan in which the *raṅgamaṇḍapa* is kept open at articulation points, the four pillars of the *śālā* are centrally located, the roof for the *maṇḍapa* is flat, the Dikpālas are placed on the front *karṇas* of the *mūlaprāsāda,* all features characteristic of the Mahā-Māru tradition. At the same time the inclusion of the *pīṭha,* an architectonic *vedībandha,* the stationing of images without the *parikarma* on the *jaṅghā* as well as the character of the masonry work are Mahā-Gurjara features. Farther north, at Osia, the Devakulikā I attached to the *balānaka* of the Mahāvīra temple, and the Devakulikā I shunted to the *raṅgamaṇḍapa* of the Sacciyāmātā temple, both of the late tenth century, reveal such strong Mahā-Gurjara influence that they give the appearance of being adaptations of that style, although the *jāla* of the *śikhara* is in the Mahā-Māru manner. Also, at Phalodi, the temple of Brahmāṇīmātā is built according to the tenets of Mahā-Gurjara tradition, with strong affiliations to the Kiradu school. In eastern Sapādalakṣa, the ruined temples at Garh near Alwar are strongly permeated by Mahā-Gurjara influences.

And now began the counter movement of the Mahā-Māru tradition as the intensity of the Mahā-Gurjara style got diminished in the very process of expansion. The major impetus came from Marumaṇḍala itself. The first evidence of the progress is the Raṇachoḍaji temple at Khed where only the doorframe and the *jāla* of the *śikhara* are in the Mahā-Gurjara (Arbuda) style. The further advance of the current was in the direction of Kiradu where exists a magnificent temple to Viṣṇu partly in the Mahā-Gurjara (lower Medapāṭa) style. It was here that the two styles met, charged as they were with immense energy. The result was a complete

merging of the two styles as attested by the Someśvara temple (*c.* A.D. 1020) and the temple at Chohtan (early eleventh century). The Mahā-Māru current in this area advanced upon the Mahā-Gurjara tradition in Gujarat territory as well. The Mūleśvara temple at Padan in Northern Gujarat, as a result, shows the *jāla* of the *śikhara* in the Mahā-Māru style, and the Khokhra Derā temple near Kanthkot uses *ghaṭapallava* pillars.

What happened in Medapāṭa at this time is not quite clear, and this may be due to the temporary eclipse of the Guhila dynasty. The stencilled *jāla* seen in the *mūlamañjarī* of the Jagat temple (Pl. 76) indicates the beginnings of Mahā-Māru influences. It seems that three currents of the Mahā-Māru style, one from Upper Medapāṭa, the second from near Khed (*anc.* Kheṭa) and the third from Śākambharī met at Nadalai (*anc.* Naḍḍula-ḍāgikā) and headed triumphantly towards Abu and thence to Gujarat. What happened at Candrāvatī, and at Patan-Anhilwad—the two metropolitan cities—at these crucial moments marking the turning point of the history of Western Indian art is obscured by the ravages of invaders, renovations, and the thoughtlessness of our own times, so that we are wholly dependent for information on the smaller shrines that have survived in the villages and minor towns of Abu and northern Gujarat. We can see a strong impact of the Mahā-Māru style on such shrines as those located at Sadri and Dasawada, Khedawara, Bhankhar and Ainthor (Pl. 95) in northern Gujarat, till it reached its fulfilment, as far as we can judge from surviving examples, in the splendid temple of the Sun at Modhera.

IX. FEATURES OF THE MĀRU-GURJARA STYLE

We may now proceed to a consideration of the characteristics of the Māru-Gurjara style through a study of the ground plan *(talacchanda)*, the elevation *(ūrdhvacchanda)*, and also the formal detail and ornament. We may then be able to discern the nature and extent of the contribution of each of the two parent styles in the formulation of the Māru-Gurjara style.

A. *Talacchanda*

The *jagatī* continues to be as rare a feature of the Māru-Gurjara as it was of the Mahā-Gurjara style. Its mouldings, too, are reminiscent of the Mahā-Gurjara tradition. The application of niches to the *jagatī* face was known to both the parent traditions, though less so to the Mahā-Gurjara.

(The Jaina *jagatīs,* it may be mentioned, almost invariably lack this feature.) It would thus appear that Māru-Gurjara examples of *jagatī,* when present, owe little to the Mahā-Māru style.

The *tri-aṅga* plan with *samadala aṅgas* (save the *bhadra*), was developed in the Mahā-Gurjara tradition as exemplified in the Śiva temple, Kotai, and the Ambikā temple, Jagat. This feature persists till the late tenth century as attested by the oldest temples at Ahar. The *caturaṅga* plan seen at the Someśvara temple, Kiradu, is the first break with the tenth century formula. The *raṅgamaṇḍapa,* too, found scope for development during this period. It becomes *tri-aṅga* and even *caturaṅga* as in the Someśvara temple at Kiradu. The Lamba type of *raṅgamaṇḍapa* was known to both the traditions, at Osia and Lamba on the one hand, and Shamlaji on the other, and at all these places is square in plan with comparatively deep *bhadra* projections and a porch in front. This simplicity of plan continues even in the enlarged *raṅgamaṇḍapas* found at Kekind and Nadol. At Muni Bāvā temple near Than, however, the proportions and articulation are subtler, a trait stressed and further developed in Māru-Gurjara examples. The *caturaṅga* plan for a *raṅgamaṇḍapa* is peculiar to the Kiradu school, but never found in Gujarat proper.

B. *Ūrdhvacchanda*

The profile of the Māru-Gurjara *pīṭha* is a most sensitive record of the history of the development of the style. Since Mahā-Māru temples had no real *pīṭha* but *bhiṭṭas* only, the entire development of the Māru-Gurjara *pīṭha* is directly related to, and a continuation of, what one sees in the preceding Mahā-Gurjara style. Its oldest temples (Fig. k. 1, 2, 3) possess only (1) a *bhiṭṭa* and a *paṭṭikā.*[98] At a slightly later date, other combinations such as (2) the *bhiṭṭa, jāḍyakumbha* and *paṭṭikā,*[99] (3) *jāḍyakumbha, antarapatra* and *kapota*[100] are found, the temples of the Middle Phase favouring the second grouping. In the Late Phase, the *kumuda* re-appears,[101] one of its varieties tends to be elongated and compressed, and another develops a blunt edge which gradually becomes sharper till it converts itself into

[98] Temples I and VI, Roda; temples at the *kuṇḍa,* Dedadara. See Harilal Gaudani and M.A. Dhaky "Ketalāṁka navā śodhāyelāñ Mahā-Gurjara mandiro" (in Gujarati), *Kumāra* 44, No. 12 (December 1967), pp. 65-71.

[99] *Mukhacatuṣkī* of Temples I and VI, Roda.

[100] Temples III and V, Roda.

[101] Temple 2 to the north of the Samidheśvara temple, Chittor.

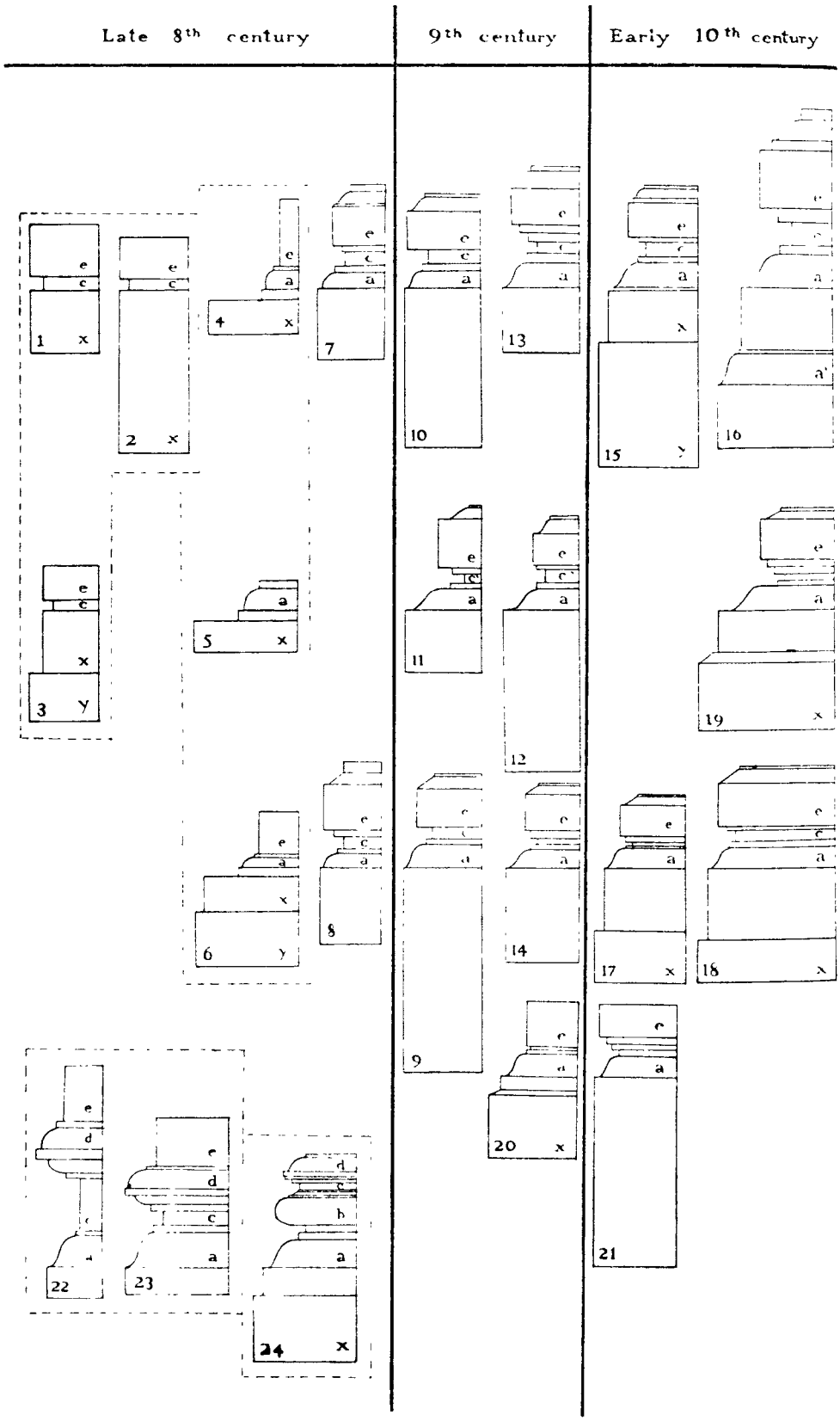

Fig. k. Profiles of the *pīṭha* of Mahā-Maru, Mahā-Gurjara, and Māru-Gurjara temples.

1. Roda, Temple I
2. Dedadara, shrine I at the *kuṇḍa*
3. Roda, Temple VI
4. Roda, Temple I
5. Roda, Temple VII
6. Roda, Temple VI
7. Roda, Temple III
8. Roda, Temple V
9. Shamlaji, Hariścandra-nī Corī temple
10. Dedadara, *kuṇḍa*, Shrine 2
11. Dedadara, Maniyārā Mahādeva temple
12. Dedadara, *kuṇḍa*
13. Varman, Sun temple
14. Wadhwan, Rānakdevī temple
15. Vadanagar, Ādinātha temple *devakulikā*
16. Vadanagar, Ādinātha temple
17. Vadanagar, Amthermātā temple

18. Than, Trinetreśvara temple
19. Kerakot, Lākheśvara temple
20. Shamalaji, Raṇachoḍajī temple
21. Prabhas Patan, Somanātha Phase I Temple
22. Roda, Temple III, porch
23. Roda, Temple V
24. Chittor, Temple north of Sammidheśvara temple
25. Ghanerav, Mahāvīra temple
26. Kotai, Śiva temple
27. Jagat, Ambikā temple
28. Kiradu, Viṣṇu temple
29. Tusa, Sun temple
30. Nagada, Sās temple
31. Than, Muni Bāvā temple
32. Eklingji, Takṣakeśvara temple
33. Jagat, Ambikā temple *dvāramaṇḍapa*
34. Ahar, Mīrā temple
35. Nagada, Bahū temple
36. Iswal, Śiva temple
37. Sewari, Mahāvīra temple
38. Ahar, Mahavira temple
39. Nadol. Someśvara temple
40. Ainthor, Viṣṇu temple
41. Kiradu, Someśvara temple
42. Modhera, Sun temple
43. Sander, Śiva temple

a *karṇaka* (*cf.* Pls. 78 and 79).[102] The pair—*antarapatra-chādyakī*—appears in the Someśvara temple at Nadol and a generation later at Modhera, above the *karṇaka*. The *gajapīṭha,* which has its origin in the Deccani tradition, appears at Jagat and at Khajuraho (Lakṣamaṇa temple). It is also found in the ruined temple at Garh near Alwar. The true Māru-Gurjara type of *gajapīṭha* is first seen in the Viṣṇu temple at Kiradu. The oldest example of a *narapīṭha* is also to be found in the same temple, while the *aśvapīṭha* first occurs in the Someśvara temple also located at Kiradu. The Sun temple at Modhera is the earliest known example integrating all the principal mouldings (save the *aśvapīṭha*). Of the mouldings, those above the *jāḍyakumbha* definitely originated in Rajasthan, the Lower Medapāṭa school obviously playing a significant role in the formation of the Māru-Gurjara *pīṭha*. An analysis of the *pīṭha* of a temple in Western India supplies sure clues as to the style, date, provenance and ancestry of a temple (Fig. k).

Now to the wall. The *vedībandha* began to be decorated in the Late Phase of the Mahā-Gurjara style. At Kotai, Jagat, Pali and Ahar (Mīrā temple), the *kumbha* face of the *vedībandha* has a very attractive ornament consisting of looped lotus bud flanked by, or encompassing, Kinnaras, *haṁsas* and similar motifs. This ornament is foreign to the Mahā-Māru style, and is totally omitted from the Māru-Gurjara style. There was one other convention, that of depicting a single large figure,[103] or a group of figures[104] on the *kumbha,* a Mahā-Gurjara feature filtered out in the Māru-Gurjara tradition. Yet another convention, a half lotus, and indented half diamond on the *kumbha* face, was popular in the lower Medapāṭa school[105] of the last quarter of the tenth century and whole-heartedly adopted

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[102] At Ghanerao as well as at Kotai, the *kumuda* appears in its purest form and proportions. Its transformation into a *karṇaka* is preceded by a slight elongation noticeable in the Ambikā temple, Jagat. Also to be seen in its *balānaka* is a clear attempt at creating a *karṇaka*. The slope seems clearer in the Mīrā temple, Ahar and the Bahū temple, Nagada. The sharper, Māru-Gurjara form is first seen at Sewadi, Nadol, the Mahāvīra temple at Ahar, and in the Viṣṇu temple at Ainthor; and next, of course, in the Someśvara temple, Kiradu and the Sun temple, Modhera. A second evolutionary trend in the form of the *kumuda* is discernible in such examples as the Sun temple, Tusa, the Sās temple, Nagda, the Muni Bāvā temple, Than, and the Viṣṇu temple, Eklingji.

[103] The Viṣṇu temple, Kiradu.

[104] Devakulikā I of the Sacciyāmātā temple, Osia.

[105] Older temples at Ahar and the Bahū temple, Nagda. This motif is also found in the Tapeśvara and Ādinātha temples at Nadol as well as in the transitional temples of northern Gujarat.

by transitional as well as early Māru-Gurjara temples in Gujarat. The *candraśālā* or *udgama* motif decorating the *vedībandha* is known at Kekind and Sikar. It is adopted by a few Māru-Gurjara temples in Gujarat,[106] but was not popular. The decoration of the *kumbha* face with an image within a niche is a fairly old feature in Rajasthan though not very frequently met. It is found on the Mahāvīra temple at Osia and the Sun temple at Budhadit. In the Someśvara temple at Kiradu it is quite dominant but in Gujarat it is not seen before the later half of the eleventh century. Figures on the *nāsikās* of the *kumbha* first appear on the Someśvara temple at Kiradu whereas in Gujarat they do not appear before the third quarter of the eleventh century. The *kalaśa* of the *vedībandha* is first embellished with floral motifs at Sikar. Soon after, this feature is to be observed in Medapāṭa as illustrated by the Mīrā temple at Ahar. The *kalaśa* of Māru-Gurjara temple is similarly ornamented, possibly from the time of Karṇadeva Solaṅkī (A.D. 1065-95), by which time it was further enriched with vertical *piṭhikābandhas* (ribbons).

The *jaṅghās* of the Ānarta as well as the Medapāṭa schools of the Mahā-Gurjara style, when ornamented with images *(prāsāda-bhūṣaṇa pratimāḥ)*, almost invariably omitted the *parikarma* except for the *bhadra-khattakas*. The images are otherwise provided with lotus pedestals as stands and are carved in relief against the plain background. In a few Medapāṭa temples, such as those at Jagat and Ghanerao, the Dikpālas are provided with *parikarma-yukta-rathikās* with *phaṁsākāra* roof though Apsarases are not. The *salilāntaras* show Apsarases or *vyālas*. In the event both are shown, the *vyālas* are restricted to the *salilāntaras* near the *bhadras*. This Medapāṭa convention is adopted in the early Māru-Gurjara temples of Gujarat, where in addition to the *vyālas*, and in lieu of the Apsarases are found *muni* (ascetic) figures. *Vyālas* gradually disappear and *munis* subsequently dominate the recessed corners. In the contemporaneous Mahā-Māru temples, *vyālas* in the context of *salilāntaras* are entirely unknown, though Apsarases are known. Besides, as at Kekind, the *jaṅghā* on all the *aṅgas* shows framed images, unlike the Mahā-Gurjara temples. Sometimes, in the larger temples, above the standing images on the *jaṅghā*, are flying Vidyādharas and *mālādharas*, or Yakṣa couples and Gandharva-*yugalas* seated on a pedestal.[107] The lateral part of the projecting *aṅga* of the *jaṅghā* is sometimes relieved by a thinly indented, elongate, split diamond, of the type found

[106] Modhera, Dhinoj.

[107] Kerakot, Jagat, Tusa.

in the Viṣṇu temple at Kiradu, an earlier example of which, though differing in detail, is to be seen in the temple at Kekind. Early Māru-Gurjara temples such as the Someśvara at Kiradu and the Sun temple at Modhera also show this feature, the precedents of which are clearly found in temples of the Mahā-Māru style.

Another interesting feature is the *skandhapaṭṭikā* (with suspended leaves at the extremities) found above the *bharaṇa* as in the temple at Kekind. This feature travelled down to Kiradu, to be employed in the Viṣṇu temple there. By the early eleventh century, it is integrated with the *bharaṇa* itself and it is in this form that it occurs on Māru-Gurjara temples. The *khuracchādya,* unknown equally to Mahā-Māru and Mahā-Gurjara traditions, appears suddenly and simultaneously in the earliest Mahā-Gurjara temples in Rajasthan as well as the Gujarat sector of Western India.

As for the superstructure, the Latina, the Śekharī and, in rare cases, the Phāṁsanā forms were favored. The Latina persisted in the temples of the transitional class to become rarer towards the close of the eleventh century.

Older examples of the *anekāṇḍaka śikhara* are found in the Surāṣṭra style.[108] In the Mahā-Gurjara style the *pañcāṇḍaka*,[109] the *navāṇḍaka*,[110] and the multi-*aṇḍaka* varieties[111] of the Śekharī class are known. In the Mahā-Māru tradition, older *anekāṇḍaka śikharas* have not survived.[112] Fragments of the collapsed *śikhara* of the Harṣanātha temple at Sikar, and the even earlier Śiva temple at Harsha, allow us to infer the presence of *karmas* (multiple *śṛṅga*) in the constitution of their *anekāṇḍaka śikharas*. Present evidence indicates that *tilakas, kūṭas,* and *kakṣakūṭakas* came to be included as decorative elements in the *śikhara* not earlier than the eleventh century.

The development of the *raṅgamaṇḍapa* in its formal aspect also reveals features that have a bearing on the problems of origin. Thus the *rājasenaka* in Mahā-Gurjara temples was often decorated with a *bhāraputraka*-and-diamond pattern.[113] This motif disappears after the formulation of the

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108 Sonkaṁsārī temple 3, Śiva temple at Khimarana and Bhīmadevaḷ near Prachi.

109 The Sun temple, Kotai.

110 The Lākheśvara temple, Kerakot.

111 The Śiva temple, Kotai and the Ambikā temple, Jagat.

112 It seems that the Mahāvīra temple at Osia had an *anekāṇḍaka* type of *śikhara;* perhaps this is also the case with the Abaneri temple.

113 Varman, Ghanerao.

Māru-Gurjara style and is replaced by diamond-and-double volute pattern. Significantly, this pattern has earlier parallels in the Mahā-Māru temples, such as those at Auwa and Kekind. The diamonds have all around perforations, a peculiarity not present in Māru-Gurjara examples.

The *vedikā* of Māru-Gurjara temples has deeply carved patterns, mostly foliate scrolls, which refer back to the patterns in the door-frame of the Mahā-Gurjara temples of Gujarat. The *vedikā* of a Mahā-Gurjara temple in Maru land, for example the Someśvara temple at Kiradu, on the other hand, shows patterns deriving from Mahā-Māru temples.

The *kūṭākāra* coping face of the *āsanapaṭṭaka* which tops the *vedikā* was a member independent of the *āsanapaṭṭaka* in Mahā-Māru temples. In a few temples of the Mahā-Gurjara style, the two were integrated. We are unable to trace the source from which this feature is derived.

The dwarf *ghaṭapallava* pillar so characteristic of the Māru-Gurjara style (Fig. 92) can definitely be traced back to a Mahā-Māru sources. In the *bhadra* of the *gūḍhamaṇḍapa* of the Mahāvīra temple at Osia are found *ghaṭapallava* pillars of this kind (Fig. 84), derivatives and variants of which were popular in various parts of Rajasthan. In its own territory these typical Mahā-Māru columns—ultimately of Gupta extraction—are found at their most elegant in the temple at Kekind (Pl. 89), at Sikar (Pl. 90), and in the Laksmaṇasvāmī temple at Nadol. Earlier, at Kusuma and Varman (Pl. 87) and afterwards in the pilaster of the Sās temple at Nagada (Pl. 88) this form is seen entering the Mahā-Gurjara territory. The early Mahā-Gurjara pillar type was distinctly different and bore no vase-and-foliage member (*cf.* Pl. 85); or when it did, as in Roda (Temple IV), it is inconsequential just as it looks so much the different from the Mahā-Māru instances.

We can roughly trace the route of the Mahā-Māru *ghaṭapallava* pillar towards Gujarat. It is found in the *antarāla,* and in the *mukhacatuṣkī* of the surviving subsidiary shrines of the Raṇachoḍajī temple at Khed (Pl. 91). It is also found in all the temples of the transitional style in lower Rajasthan and northern Gujarat.

The predecessors of the highly ornamental *miśraka* (composite) type of column (known as the "Modhera order") are found in the Medapāṭa temples of the Mahā-Gurjara style, at Ahar, Nagada (Pl. 93), and at Kiradu (Viṣṇu temple).

As for the ceilings, most of the *samatala* varieties of the tenth century went out of fashion. New compound types such as the Padmanābha, the Padmanandāraka and others were developed. The *kola* courses, wherever

present, do not follow the "co-radial" regression but the "harmonical" one.[114] The details become finer. The central *padmaśilā* or *lambana* (lotus pendant) assumes an imposing and spectacular form.

Several changes took place in the doorframe of Māru-Gurjara temples. The *ratnaśākhā* of the Mahā-Gurjara style was discarded, and the *nāga-śākhā* of the Mahā-Māru dropped. The *mandāraka* of the latter tradition is inherited by the Māru-Gurjara style. The *kīrttimukha* (flanking the *mandāraka*) cannot be traced to either tradition. In Khimeśvara temple I (early seventh century) of the Saurāṣṭra style they occur. Perhaps there is a connection between the two, the links yet to be traced. The many different motifs seen in Mahā-Māru door-sill are entirely absent in the Māru-Gurjara counterpart. For the rest, there seems to be a complete fusion of the conventions of the Mahā-Māru and the Mahā-Gurjara styles. The fusion, of course, brought about a transformation and consequently, a different look of the doorway.

The Phāṁsanā almost goes out of fashion in the Māru-Gurjara style. The Saṁvaraṇā was evolved from the Phāṁsanā by an independent process simultaneously in Rajasthan and Gujarat within the ambit of the Mahā-Gurjara style, the earlier transitional examples occurring in Tilsama, Kiradu and Than.

By about the middle of the eleventh century the differing local idioms of the Māru-Gurjara style disappeared, it having reached a stage of maturation. From Osia and Pali in Rajasthan to Prabhas in Gujarat, the style shows the same unvarying character. This uniform character was achieved by several minor waves of influences originating from Rajasthan and passing in the direction of Gujarat.

X. FURTHER DEVELOPMENT

The total merger of the Mahā-Gurjara and the Mahā-Māru style also resulted in the complete integration of the ideals of the plastic and the monumental, accentuating certain tones, and neutralizing the others. The immigration of communities that controlled the commerce of medieval Western India; changes in the political boundaries of principalities, kingdoms and empires; and the religious and cultural environment contributed to the development of an integrated style acceptable to all Western India.

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[114] The ceiling of the *gūḍhamaṇḍapa* of the Mahāvīra temple at Ghanerao supplies the intermediate links.

In the next phase, sustained patronage for about two centuries and a half, led to the smooth evolution of a thoroughly standardized style which concerned itself more with detail rather than totality.

The increased opulence of the Solaṅkī empire permitted very large ambitious undertakings such as the Rudramahālaya at Sidhpur, the Somanātha temples at Prabhas Patan and the Ajitanātha temple at Taranga. Such colossal projects stimulated the development of the ground plan, the enlargement of which was conveniently effected by the introduction of *nandikās* or *koṇikās*. In the elevation no new changes are noticeable, though the interiors show some interesting innovations, particularly in the handling of *toraṇas* and ceilings. These were brought about by the new tendencies in architectural decoration which concerned themselves with niceties rather than massive vigour. These were carried to extremes, very pleasing extremes indeed, in the *raṅgamaṇḍapa* of the Tejapāla temple at Dilwara, particularly in its extraordinary *vitāna*, the *padmaśilā* of which is a suitable symbol of the zenith of the Māru-Gurjara style. From this point on degeneration sets in—but this is part of another interesting story with which we will not concern ourselves here.

H.G. FRANZ

DER INDISCHE TERRASSENTEMPEL

Die bedeutendste architektonische Leistung Indiens in der Architektur des Mittelalters war der Turmtempel und der Terrassentempel. Beide entwickelten sich aus einfachen Anfängen in den ersten Jahrhunderten unserer Zeitrechnung und wuchsen allmählich zu immer gewaltigeren Anlagen. Die grössten Terrassenheiligtümer entstanden ausserhalb der Grenzen des indischen Subkontinents in den von Indiens Kunst und Kultur geprägten Reichen die sich in Java und in "Hinterindien," in Kambodscha entfalteten. Beide, Turmtempel wie Terrassenheiligtum, sind von dem Gedanken der Höhensteigerung des sakralen Bauwerks geprägt, einem Gedanken in dem sich mittelalterliche Vorstellung in ihrer charakteristischsten und auch grossartigsten Gestaltung ausprägt.

Die Anfänge des Turmtempels führen zu einfachen Kultkapellen, die zunächst mit einem leicht gestreckten Oberbau versehen waren, und in ihren Anfängen auf Bauanlagen des Buddhismus zurück. In gleicher Weise lassen sich die Früh-und Urformen des Terrassenheiligtums im Bereich des Buddhismus feststellen. Seit dem 3. und 4. Jahrhundert wird der buddhistische Stupa mit Vorliebe auf erhöhte Sockelbauten gesetzt, die allmählich zu monumentalen Terrassenanlagen anwachsen. Der Stupa auf hohem Sockel ist in Mathura durch eine Reliefdarstellung bezeugt, die im 2. oder 3. Jahrhundert enstanden sein dürfte, das möglicherweise jainistische Relief zeigt auf hohem Sockel einen Stupa, zu dem eine mittlere Freitreppe emporführt. Der über eine Terrasse erhöhte Stupa war möglicherweise im Reiche der Kuṣāna entwickelt worden, dessen südliche Hauptstadt im Bereiche von Mathura lag. Während in den südindischen Kunstzentren des Buddhismus der Terrassenbau fehlt und der Stupa hier, in Amaravati, Nagarjunakonda und an anderen Stellen, wie auch auf Ceylon, in altertümlicher Weise mit einen Mittelbau unmittelbar auf dem Boden aufruht und damit die Urform des Stupa beibehalten bleibt, windet sich im Gandhara-Gebiet der Terrassenstupa in reicher und vielfältiger Durchbildung und hier lässt sich auch verfolgen, wie die einfache einstufige Sockelterrasse zu mehrfach gestuften Terrassenanlagen weiterentwickelt wird. Für derartige Anlagen haben sich im Gebiet von Taxila zahlreiche Beispiele erhalten,

vor allem an Votivstupas. In Jaulian sind die vielstufig gegliederten Terrassen des Stupa reich mit Nischen verziert in denen meist aus Stuck verfertigte Kultbilder des Buddha eingestellt sind. Als monumentale Anlage gestaltet, findet sich der mehrstufige Terrassenstupa noch in dem grossen Hauptstupa des Kloster- und Wallfahrtskomplexes von Bhamala bei Taxila. Die Sockel des gestuften Terrassenbaues sind mit Formen der römisch antiken Architektur gegliedert, wie sie sich auch an andern Stellen der Kuṣāna-Architektur finden. Dazwischen sind die Nischen häufig in typisch indischen Bogenformen gehalten (Dreibogenöffnungen). Die reichsten Anlagen dieser Art dürften zeitlich mit der Herrschaft der Gupta zusammenfallen, das heisst bereits ins 4. Jahrhundert gehören.

Der Terrassenstupa hat sich auch im südlichen Indusgebiet im Sind (Westpakistan) in mehreren Backsteinbauten erhalten, von denen noch die quadratischen Sockel übriggeblieben sind. Der bedeutendste war der Stupa von Mirpur-Khas, von dem sich Reste des plastischen Schmucks aus Reliefs in gebrannter und glasierter Terrakotta im Museum von Bombay erhalten haben.

Der im Gandharagebiet auftretende, mit dem Formenapparat römisch-mittelmeerischer Architektur ausgestattete Terrassensockel findet sich in monumentaler Form in dem grossen Terrassenstupa wieder, der in der buddhistischen Klosterstadt von Nalanda, in Bihar gelegen, ausgegraben und freigelegt wurde. In dem als Nr. 3 bezeichneten Baukomplex erhielt sich, unter der Überbauung der Folgezeit teilweise unversehrt erhalten, eine Wand des Terrassenstupas des fünften Baues, der hier im Übereinander der verschiedenen Bauphasen festgestellt werden konnte. Der Gandharatypus des Terrassenstupa mit Pilastergliederung erscheint hier in völlig indisierter Form. Die Fassade stellt eines der schönsten Beispiele Gupta-zeitlicher-Architektur dar, man darf annehmen, dass sie um 500 entstand. Die gliedernden Elemente der Gandhara-Kunst, Pilaster, Gebälk, Sockel, Nischen, sind vom indischen Formempfinden völlig umgestaltet. Die stuckierten Terrassenwände bestehen aus einem vollen Geschoss und aus einem halben Geschoss voll Nischenreihen mit einem attikaähnlichen Geschoss liegender Nischen darüber. Alle Geschosse sind durch kräftige Konsolgesimse getrennt, die Nischen durch Pfeilervorlagen. Diese beginnen auf einer kräftigen Basis als Vierkantpfeiler und enden in einem kurzen oktogonalen Stück, das über einer Deckplatte das wulstige, gerippte Kapitell von Kissenform und darüber auf einer neuen Deckplatte den kreuzförmigen Kämpfer trägt. Die vorhandenen Reste sind so zu ergänzen, dass ein grosser mittlerer Stupa als hochaufragendes Monument

angenommen werden muss, das an den vier Ecken von vier kleineren Stupas begleitet war, die auf den noch erhaltenen Sockelbauten der Ecken aufsassen. Diese lassen sich als Kapellenstupas erkennen und repräsentieren einen Typus des Stupabaues, der offenbar in der Guptazeit ins Leben trat, den "Stupa mit Kultnische". Der ursprünglich auf der Terrasse aufragende grosse Stupa ist völlig verschwunden und in dem Backsteinmassiv der beiden späteren Erweiterungsbauten im 6. oder 7. Bau, aufgegangen. Diese waren vermutlich mehrstufige Terrassenbauten, bei denen verschiedene gestufte Terrassen übereinander angelegt waren und auf ihrem Scheitel das Monument trugen, das jetzt wahrscheinlich nicht mehr ein Stupa sondern wahrscheinlich ein Turmtempel war. Für die Datierung der Terrassenanlage des 5. Baues können die in den Nischen teilweise erhaltenen Stuckfiguren stehender Buddhas herangezogen werden, die einen charakteristischen Guptazeitlichen Figurentypus repräsentieren, wie er in der reifen Gupta-Zeit um 450-500 entstanden ist.

Wieweit der Turmtempel sich mit Terrassenanlagen verband, ist in der Frühzeit dieses Tempeltyps nicht mehr genau zu erweisen. Frühe hinduistische Turmtempel, wie sie etwa in Deogarh oder in Gop erhalten sind, zeigen den noch einfachen Turmtempeltypus, der hier aus einer Cella mit aufgesetztem erhöhtem Dach entsteht, über einer Terrasse errichtet. Terrassen, auf vier Seiten von Freitreppen zugänglich, sind auch als Unterbauten den Tempeln von Kaschmir beigegeben, die im 8. und 9. Jahrhundert hier entstanden und die eine vereinfachte Frühform des Turmtempels beibehalten zeigen, die in dem entlegenen Gebirgsland von Kaschmir sich offensichtlich noch lange erhielt, als im übrigen Indien der monumentale Turmbau sich bereits durchgesetzt hatte, bei dem das Terrassen- und Sockelgeschoss nicht mehr vom Oberbau geschieden, sondern mit diesem verwachsen auftritt, wie es in den Tempeln von Bhubaneshwar zu erkennen ist (8., 9. Jahrhundert).

Terrassenanlagen scheinen eine besondere Bedeutung in der Baukunst des Buddhismus gespielt zu haben. Hier erscheint auch der grosse Turmtempel in Bodhgaya als Turmtempel über einem hohen Terrassensockel, den ähnlich wie im Stupa-Bau Nr. 3 zu Nalanda vier kleinere Ecktürme flankieren.

Den Terassenstupa über hohem Sockel, wie er sich wahrscheinlich im Bau Nr. 3 in Nalanda in der 5. Bauphase ausgeprägt hat, bezeugen auch kleine Bronzestupas, die in Nalanda ausgegraben wurden und in denen sich über quadratischem Unterbau, der Stupa auf einem Tambour erhebt.

Der Terrassenbau scheint in besonderer Weise mit dem Sakralbau

des Buddhismus verbunden, der in den auf die Gupta-Zeit folgenden Jahrhunderten den Terrassenbau zu immer gewaltigeren Dimensionen ansteigen lässt.

Bedeutsame buddhistische Terrassenanlagen haben sich im nordöstlichen Indien aus der Zeit des 8. bis. 10. Jahrhunderts erhalten, als hier unter der Dynastie der Palader Buddhismus eine letzte Blütezeit erlebte. Im übrigen Indien war er zu dieser Zeit bereits erloschen bzw. von den hinduistischen Religionsformen aufgesogen worden. Die Zentren buddhistischen Tempelbaues im östlichen Gangesgebiet, in Bihar und Bengalen, sind noch in Resten zugänglich, soweit Grabungen sie freigelegt haben, Eindrucksvolle Ruinen kamen in dem schon genannten Nalanda, in Paharpur (heute Bangladesh) und bei Mainamati (ebenfalls heute Bangladesh) ans Licht. Dazu tritt noch der ebenfalls durch Grabungen freigelegte riesige Sockelbau der Terrassenanlage in Lauriya Nandangarh.

Eine Vorstellung vom Aussehen der riesenhaften buddhistischen Turm- und Terrassentempel aus Backstein, die unter den Pāla in Bihar und Bengalen entstanden, und von denen nur noch Ruinen und Schuttberge sowie die Fundamente und Unterbauten erhalten sind, können Kleinmodelle aus gebranntem oder ungebranntem Ton vermitteln, die als Pilgerandenken oder als Votivgaben dienten und sich in verschiedenen Teilen des nördlichen Indiens und der Bergländer fanden. Von besonderem Interesse sind diejenigen, die gestufte Terrassenanlagen mit einem Stupa als Abschluss nachbilden. Ein zylindrisch gestreckter Stupa steht hier auf einem einfachen oder einem doppelt oder mehrfach gestuften, quadratischen Terrassenbau, zu dem von allen Seiten Freitreppen—kreuzförmig angeordnet und an Risalitvorsprüngen angesetzt—emporführen. Den Fuss der Terrassen umziehen zahlreiche starke profilierte Sockellinien. Die Erinnerung an versunkene buddhistische Kultbauten klingt in diesen Fundstücken nach, von denen einige, aus Gilgit stammend, das Shri-Pratap-Singh-Museum in Srinagar verwahrt. Andere, aus Chotscho in Ost-Turkestan (Sin-Kiang), besitzt das Museum für Völkerkunde in Berlin. In den Einzelheiten sind diese Modelle sehr unterschiedlich, was darauf hindeutet, dass mehrere bedeutende Stupaberge dieser Art in Indien existierten. Zwei der Tonmodelle in Berlin erscheinen besonders reich gegliedert. Die Terrassen sind hier in unzählige kleine Vorsprünge aufgelöst, die offenbar selbst wieder Kleinstupas tragen.

Gleiche Stupabauten veranschaulichen zwei grössere Bronzemodelle im Museum von Peshawar, die wahrscheinlich aus den nahen Himalayatälern, aus Gilgit oder Dir, stammen. Auch hier besitzen die Terrassen

Risalite und Freitreppen auf vier Seiten. Vor allem haben sich die an den Tonmodellen fehlenden Schirme *(chatra)* erhalten, welche zu hohen Kegeln zusammengezogen sind. Dass solch riesige *chatra* üblich waren, zeigen auch die Abbildungen ähnlicher Stufenstupas auf Terrakottaplatten und Tonsiegeln. Diese sogenannten *t'sa-t'sa* dienten wohl ebenfalls als Pilgerandenken an die grossen Wallfahrtsstätten des Buddhismus und wurden wie die Tonmodelle hauptsächlich in Tibet und Zentralasien gefunden. Daneben kommen auch Nachbildungen von Stupas über zylindrisch angeordneten mehrstufigen Terrassenbauten vor.

Die Fundamente eines riesigen Terrassenstupa wurden in Lauriya Nandangarh in Nordindien ausgegraben. Von dessen ursprünglicher Anlage hat sich nur ein Teil der unteren Terrassen erhalten. Über polygonalem Grundriss erheben sie sich reich getreppt und risalitartig gestaffelt. Auch der Ansatz der runden Terrassen darüber ist noch erkennbar, die zu dem Stupazylinder überleiten. Eine Freitreppe war vorgelegt. Das Innere enthielt einen kleinen Backsteinstupa eingestürzt, dessen Kuppel auf einem quadratischen Sockel mit mehrfach gestaffelten Risaliten aufsitzt. Wahrscheinlich dürfen wir hier die Reste eines der indischen Bauten vermuten, die das Vorbild für die Tonmodelle abgaben.

In Nalanda, der Buddhistischen Klosterstadt, brachten die Freilegungsarbeiten drei grosse Tempelterrassen (Tempel Nr. 12, 13, 14) mit den Fundamenten grosser Kultkapellen ans Licht. Die aussergewöhnliche Mauerstärke lässt auf hohe turmförmige Oberbauten schliessen, die im Laufe der Zeit zerfallen und eingemauert sind. Auch die Terrassen vom Tempel Nr. 2. zu Nalanda dürften eine Turm-Cella getragen haben.

Am Haupttempel Nr. 12 legen sich in Nalanda um den bereits auffallend dicken Mauerkern der Cella Erweiterungen, die wahrscheinlich anlässlich einer Erhöhung des Turmes als Verstärkung hinzukamen. In den stuckierten Bekrönungen einer unter dieser Ummauerung am Sockel erhaltenen Reihe von Nischen, die vom ersten Bau stammen und wohl Skulpturen enthielten, wiederholt sich vermutlich die stufenförmig getreppte Form des verlorenen Turmbaus. Die grosse mittlere Nische endet in einer Einfassung aus geschichteten Gesimsen mit einem grossen Knauf in Form eines *āmalaka* als Abschluss. Wir dürfen hier die verkleinerte Abbildung eines aus sieben niedrigen Stufen aufgebauten und pyramidal getreppten Turmbaues sehen, ein Abbild des Turmes, der sich auf der Treppe erhob. Der erste Turm wäre danach ein relativ niedriger, stark in die Breite entwickelter Bau gewesen, der an frühe *śikhara*-Türme des 6.-8. Jahrhunderts erinnert (Aihole, Pattadakal, Paraśurāmeśvara-Tempel zu

Bhubaneswar). Auch das schon erwähnte kleine bronzene Tempelmodell aus Nalanda im Nationalmuseum zu New Delhi lässt sich zur Rekonstruktion heranziehen. Es weist nahe Verwandtschaft zu den Stuckbekrönungen der freigelegten Sockelnischen auf.

Die Überreste der letzten Erneuerung des Baues Nr. 3 in Nalanda liessen auf einen gestuften Terrassenbau mit Turmanschluss schliessen. Das riesige Backsteinmassiv, das bei der 7. Erweiterung entstand und das zusammen mit dem Vorgänger, dem 6. Bau, den älteren Stupa des fünften Baues umschloss, bewahrt auf dem Scheitel die massigen Maueransätze einer Cella über die sich wahrscheinlich ein Turm erhob. Der amorphe Ziegelklotz darunter bildete wohl eine mehrstufige Terrassenanlage. War im 5. Erweiterungsbau ein Stupa als Abschluss der Terrassen zu vermuten, trat im 6. Bau der Turmtempel mit Kultbild im Inneren an dessen Stelle. Während sich die Ruinen der Tempelbauten Nr. 12, 13 und 14 von Nalanda als Einterrassenanlagen deuten lassen, ist Bau Nr. 3 zu einem mehrstufigen Terrassenbau umgestaltet worden. Eine gestufte Terrassenfolge könnte man sich auch bei Bau Nr. 2 in Nalanda vorstellen, von dem nur ein Sockel geblieben ist.

Vom Aussehen der in der Gupta-Zeit gegründeten Klosteranlage zu Nalanda gibt der Reisebericht des chinesischen Pilgermönchs Hsüantsang aus dem 7. Jahrhundert eine lebendige Schilderung. Er hebt die zahlreichen Türme hervor, womit zweifellos die Turmtempel gemeint sind, deren Fundamente und Mauerreste bei den Ausgrabungen freigelegt wurden. Eine in Nalanda gefundene steinerne Inschrift enthält die Nachricht, dass bereits ein um 530 regierender König Bāläditya dort "einen grossen und aussergewöhnlichen Turm (Trasada) des Buddha" errichtete, dem Kailasa-Berg, dem Berg der Götter vergleichbar. Auch Hsüan-tsang erzählt von einem Tempel des Bāläditya.

Als Dreiterrassenanlage hat sich noch ein anderes Monument des Pāla-Reiches erhalten: der in Paharpur im heutigen Bangladesh ausgegrabene grosse Tempel, dessen untere Stufen unter einem Ruinenhügel erhalten waren. An Ausdehnung übertrifft die hier zur Kreuzform erweiterte Anlage die des Baues Nr. 3 von Nalanda. Von dem gewaltigen Oberbau erhielt sich nur das formlose Ziegelmassiv. Die Grundform der Anlage lässt sich nach Freilegung des Sockels aber noch gut erkennen. Auf dem Scheitel fanden sich Spuren einer Cella über einem tiefen Schacht von quadratischem Grundriss. Vielleicht lag auf seinem Grund der Boden einer älteren tiefergelegenen Cella, die auf diese Weise mitsamt dem Kultbild oder den Reliquien bewahrt bleiben sollte. Möglicherweise liegt

aber auch eine symbolische Bedeutung zugrunde, indem der Schacht etwa als Mast des Weltberges betrachtet wurde, den der kreuzförmige Tempelberg versinnbildlicht. Dem quadratischen Kernbau, der sich als Mauerklotz über die drei Terrassen hinauf fortsetzt, sind in Höhe der dritten Terrasse vier schmälere Räume vorgelegt, bestehend aus einer äusseren quadratischen Halle und einem inneren Vorraum, der sich nach oben in die vier Vorräume vor der Turm-Cella fortsetzte.

Die beiden untersten Terrassen folgen dem Umriss des kreuzförmigen Kernbaues mit ausspringenden Ecken, so dass ein reich gestaffelter Umriss entsteht. Den Sockel verkleiden reliefierte Terrakottaplatten, die zum grössten Teil noch vorhanden sind. Sie enthalten Götter- und Symboldarstellungen, in deren Thema buddhistische und brahmanistische Motive wechseln. Die ersteren konzentrieren sich vorwiegend auf die Ecken. Die letzteren wurden offenbar zu einer späteren Zeit eingefügt, was darauf hindeutet, dass ein ursprünglich buddhistischer Bau zu einer späteren Zeitpunkt in einen hinduistischen umgewandelt wurde, aber wohl nicht umgekehrt, wie früher angenommen wurde.

In dem in seiner Erwähnung der grossen indischen Kultbauten des Buddhismus sonst so vollständigen Reisebericht des chinesischen Pilgermönchs Hsüan-tsang ist der Tempel von Paharpur nicht angeführt. Daraus lässt sich schliessen, dass er erst danach, im späten 7. oder im frühen 8. Jahrhundert, gebaut wurde. Eine Bestätigung fand sich auf Tonsiegeln, deren Inschriften besagen, dass Dharmapāla, der zweite König der Pāla-Dynastie, zu Ende des 8. Jahrhunderts Kloster und Tempel gründete. Wahrscheinlich liess der gleiche Herrscher auch das weite Geviert von Mönchszellen um den Tempel in der Mitte anlegen, wohl die grösste bisher im indischen Bereich ausgegrabene Klosteranlage des Buddhismus.

Eine sehr ähnliche Tempelanlage wie in Paharpur wurde bei Mainamati, gleichfalls in Bangladesh gelegen, ausgegraben. Auch hier lag der kreuzförmige Bau inmitten eines grossen Hofes, den die Mönchszellen umgaben.

Die Rekonstruktion des Tempels von Paharpur erhellen auch die auf Java erhaltenen vierarmigen Terrassentempel: Der Tempel der Tara in Kalasan (778) und der Candi Sewu (9. Jahrhundert). Letzterer besitzt jedoch nur eine Terrasse. Diese Bauten entstanden sicher nach indischen Vorbildern, die von der aus dem östlichen Indien gekommenen Śailendra-Dynastie zusammen mit dem Buddhismus (in Form des Vajrayāna) in Java eingeführt wurden.

Noch stärker als dem Tempel in Paharpur ähnelte der letzte Umbau der grossen Ruine Nr. 3 in Nalanda aber wahrscheinlich den in den Dimensionen ebenfalls riesenhohen Terrassentempeln und Terrassenstupas von Burma, von denen bereits Beispiele erwähnt wurden. Die ältesten stammen aus dem 11. Jahrhundert. Sie sind meist nach einem einheitlichen Grundschema angelegt. Um einen hohen massiven Mauerkern als Träger eines Tempelturmes oder eines Hochstupas legen sich im Sockelgeschoss ein oder zwei Umgänge mit Nischen für Kultbilder. An einer Seite, oft aber auch an allen vier Fronten sind die grossen Vorhallen bzw. Vortempel angefügt. Über diesem hohen Sockelbau erstreckt sich eine flache Terrasse, oder es folgen mehrere gestaffelte übereinanderliegende Terrassen, an den Ecken durch einen kleinen Stupa oder Turm betont. Die Zugänge führen über im Mauerwerk eingelassene Treppen, deren Läufe ebenso wie die Umgänge schmal und hoch sind, da die unentwickelte Wölbtechnik nur geringe Raumbreiten überspannen konnte. Als ältestes und bedeutendstes Beispiel burmesischer Kultbauten erhielt sich der Ananda-Tempel in Pagan (11. Jahrhundert). Die oberste Terrasse bekrönt hier ein massiver Zentralturm, an dessen Stelle in anderen Bauten ein Stupa tritt.

Nach den gleichen indischen Vorbildern ist auch der grosse Mingalazedi-Stupa in Pagan in Burma, allerdings erst viel später (1274) errichtet. Hier treten auf den vier unteren quadratischen Terrassen, die wie die Tonmodelle mehrere flache Risalite und mittlere Freitreppen aufweisen, kleine Eckstupas auf, während auf der letzteren 4 grössere Eckstupas hinzukommen. Ein oktogonaler Sockel leitet zum grossen Stupa über. Alle Terrassen enthalten Sockelfriese mit quadratischen Reliefs, wie sie die indische Baukunst ausgebildet hatte. Die Reliefs selbst sind meist verloren. Aus den indischen Vorbildern leiten sich auch die stark betonten wulstigen Profile ab, die in gehäufter Folge angeordnet sind.

Der grösste Terrassenstupa der buddhistischen Welt, der Barabudur, entstand um 800 auf Java. 1885 wurde er entdeckt und danach durch den von den Niederländern eingesetzten Denkmaldienst wiederhergestellt. Aus den herabgefallenen Steinblöcken konnten die zerstörten Teile wieder aufgerichtet werden. Die Anlage kann unsere Vorstellung von den verlorenen buddhistischen Grossbauten Indiens in willkommener Weise ergänzen. Ein aus der fruchtbaren Kedu-Ebene aufsteigender Hügel ist, in dem er mit dunklem Lavagestein eingehüllt und verkleidet wurde, in einen Terrassenbau verwandelt. Über sehr quadratischen Terrassenstufen, auf jeder Seite zweifach abgestuft, erhebt sich ein kreisrunder, mit Stupas

besetzter Oberbau mit dem bekrönenden grossen Hauptstupa. In der Mittelachse führen auf allen Seiten Freitreppen nach oben. Die unterste Terrasse hat eine Seitenlänge von etwa 150 Metern. Darüber folgen 5 quadratisch verlaufende und 4 runde Geschosse, wenn man den obersten Stupa nicht mitzählt, dann 3 runde Geschosse. Zwischen den reich dekorierten quadratischen Terrassen, deren Wände mit Reliefs und Ornamentik bedeckt und deren Nischen mit Buddhabildern und Kleinstupas ausgefüllt sind, und den runden Terrassen, die ohne allen Schmuck gehalten sind und nur die 72 Stupas tragen, besteht ein auffallender Unterschied.

Den Gedanken des mehrstufigen Terrassenheiligtums übernahm im 9. Jahrhundert auch "Hinterindien." Im Reich der Khmer, in Kambodscha erlebte dieser eine grossartige Weiterbildung. Schon seit dem 6. Jahrhundert hatte der indische Tempel mit turmförmig überhöhter Cella Eingang gefunden.

Der gestufte Terrassentempel tritt zuerst im 881 entstandenen Heiligtum des Bakong auf. Hier erhebt sich ein Turmtempel mit dem Liṅga des mit Śiva gleichgesetzten Herrschers. in der Cella über fünf quadratischen Terrassenstufen. Es ist der älteste zeitlich gesicherte Tempelberg der Khmer, der in ihrem Reich seitdem zur beherrschenden Form des Tempelbaues wurde. Seine vollendete Lösung fand dieser Tempelberg nur wenig später in dem 893 errichteten Tempelberg von Bakheng.

Vorher waren Gruppen von Einzelkapellen auf einer Terrasse vereinigt, wie sie schon in Sin-kiang, in Chotscho begegneten (vor 700). Im Preah Ko sind auf der gemeinsamen Terrasse sechs aus Backstein errichtete Turmcellae aufgestellt, je drei nebeneinander, von denen die vordere Reihe die Statuen der göttlichen Vorfahren des Königs enthält, die hintere die der weiblichen Linie. In zahlreichen Stufen bauen sich die Turmabschlüsse auf, die durch vermehrte Profile sowie durch gestaffelte Risalitbildung belebt sind.

Im Phnom Bakheng von 893 ist das Turmheiligtum hingegen auf einer mehrstufigen Pyramide errichtet, auf deren fünf Terrassen Kapellentürme in den Ecken sowie zu Seiten der axialen Treppe stehen. Auf der obersten Terrasse wird ein mittlerer Hauptturm von vier an den Ecken stehenden Türmen eingefasst, während auf der Bodenschwelle ebenfalls turmbekrönte Cellae stehen, neben den Treppen verdoppelt. Im ganzen besteht der Tempelberg aus 109 Türmen. Die Zahl hat wahrscheinlich symbolischen Sinn.

Die Anlage des ersten steinernen Bergturmtempels, des Bakong-i in

Rolous (Hari-Harālaya), von Indravarman 881 errichtet, ist im Bakheng (893) ausserordentlich erweitert und gesteigert. Die Tempel auf der Terrasse sind erstmalig in Sandstein ausgeführt und ersetzen damit die bisherige Architektur aus Backstein und Stuck. Das zentrale Turmheiligtum lässt in seinem gut erhaltenen Unterbau die Schmuckformen noch ausgezeichnet erkennen.

In Koh Ker, nördlich von Angkor, der im zweiten Viertel des 10. Jahrhunderts neu angelegten Hauptstadt, wurde ein siebenstufiger pyramidaler Hügel von 35 Meter Höhe aufgeführt. Auf der Gipfelterrasse stand der Turmtempel. Nur die Grundmauern des Heiligtums sind noch erhalten. Sie geben allein schon eine Vorstellung von der Grossartigkeit der aufgewandten Mittel.

Nachdem Angkor wieder Hauptstadt geworden war, errichtete der König dort 952 auf einer Insel in der Mitte des grossen, künstlichen Sees, des östlichen Mebon, einen Tempel als Monument der königlichen Ahnen gedacht. In diesem, wie in dem Tempelberg des Pre Rup, den er 961 als Mittelpunkt der Hauptstadt südlich des grossen östlichen Baray-Sees anlegte, ist der dreistufige Terrassentempel in den Ausmassen noch um ein Beträchtliches vergrössert. Als künstlerische Neuerung sind jetzt am Fuss des Tempelberges Hallen angelegt, die umlaufend den Bau einfassen.

Aus dem 10. Jahrhundert erhielten sich noch ein Tempelheiligtum von besonderer Feinheit, das 957 in Banteay, etwa zwanzig Kilometer nordöstlich von Angkor, errichtet wurde. Drei turmgekrönte Cellae erhoben sich gereiht auf einer Terrasse. Das Hauptheiligtum war mit einem gewölbten Eingangsbau versehen. Auch hier umgeben die Anlage lange Hallen. Von besonderer Schönheit ist der durchgehende Schmuck.

Noch reifere und entwickeltere Form nimmt der Tempelberg in den zwei gegen Ende des 10. Jahrhunderts begonnenen Heiligtümern an, die König Yajvarman V. (968 - 1001) im Gebiet der Stadt Angkor anlegte. Als Mittelpunkt einer neuen Stadt errichtete er gegen 978 den Phimeanakas und einige Jahre später den noch mächtigeren Ta Kéo. Als entscheidende Neuerung fällt auf, dass die Stufenpyramide sich nicht mehr so stark nach oben verjüngt, so dass eine sehr grosse Plattform als Abschluss entsteht. Sie wird beim Phimeanakas von einer gedeckten Galerie umschlossen, in deren Hof sich das Hauptheiligtum erhob, von dem nur noch Reste vorhanden sind. Die Terrassenmauern sind in starker Profilierung aufgelockert und im Wechsel von Wulst und Einziehung lebhaft plastisch bewegt, was ebenfalls eine Neuerung und Fortbildung der bisherigen Architektur darstellt. Die Freitreppe führt in einem Zug nach

oben, flankiert von Löwen, die auf Sockeln stehen. Das Motiv der Galerie trat zuerst am Pre Rup in den langen Sälen auf. Noch reicher ist die Durchgestaltung der Terrassenanlage im Ta Kéo. Der fünfstufige Bau wird auf der zweiten Stufe ganz von Galerien umzogen, auf der ersten besitzt nur die Eingangsseite Galerien.

Inmitten einer neuen Stadt im Bereiche von Angkor wurde um 1050/1060 der Tempelberg des Baphuon errichtet. Mit diesem Monument beginnt der Tempelberg ins Riesenhafte zu wachsen. Die Umfassungsmauer misst über 400 m in der Länge und über 200 m in der Breite. Neu ist, dass die erste und zweite Stufe des Fünfterrassenbaues durchlaufend von einer gewölbten Galerie umzogen werden, an den Ecken von Türmchen eingefasst. Eingangspavillons stehen in den Achsen der Treppe, die jeweils die Treppenzugänge aufnehmen und weiterleiten. Auch diese Pavillons sind mit Türmchen versehen und kreuzförmig gestaltet, indem Vorhallen vorgelegt sind. Diese kreuzförmige Anlage bestimmt auch das oberste Heiligtum, das jetzt als dominierender Einzelturm den Scheitel der obersten Terrasse bekrönt. Nach allen vier Seiten sind seiner quadratischen Cella schmale, rechteckig gewölbte Vorhallen vorgelegt—eine Neuerung, die in Zukunft beibehalten wird. Die Terrassenmauern sind vollständig aufgegliedert in dicht aufeinander folgende horizontale Wulstprofile. Das Turmheiligum wie auch der grösste Teil der Galerien liegt leider in Trümmern, so dass nur eine ungefähre Vorstellung von dem Bauwerk zu gewinnen ist. Nur die Terrassenstufen haben sich erhalten. Im Baphuon ist die reife Form des Tempelberges ausgebildet, wie sie sich in der Folgezeit immer wiederholt, nur in den Massen noch gesteigert. Hier stehen die Grundelemente fertig vor uns, aus denen sich die weiteren Tempelberge der Khmer zusammensetzen, die sich in Zukunft nur in den Proportionen und in Einzelheiten wandeln, aber nicht mehr im Bautypus. Baukastenartig arbeiten die Architekten mit den gegebenen Elementen, die im Wesentlichen aus den in Kragsteinwölbung überdeckten langen Galerien bestehen, die die Terrassen umziehen, den Türmen und Treppenpavillons und dem Turmheiligtum auf dem Scheitel. Wandlungen ergeben sich vor allen Dingen im Verhältnis der einzelnen Teile zueinander. In einer ins Gigantische gesteigerten Form sehen wir die Bauelemente des Baphuon in dem riesigen Tempelberg von Angkor Vat wiederkehren. Er wurde fast ein Jahrhundert nach dem Baphuon—im 12. Jahrhundert—gebaut, als gegen Ende des 11. Jahrhunderts eine neue Dynastie die Herrschaft ergriffen hatte.

Unter Benutzung des Systems, das der Tempelberg des Baphuon

gebracht hatte, ist hier in riesigen Ausmassen ein dreistufiger Tempelberg geschaffen, der 200 × 220 m an der Basis misst. Den Hauptturm verbinden kreuzarmig Galerien mit denen, die die oberste Terrasse umgeben. An den Ecken enden sie in vier Ecktürmen, welche die Gestalt des grossen, 65 m über dem Erdboden aufragenden Hauptturmes in etwas kleinerem Massstab wiederholen. Die Mauern der obersten Terrassen sind dicht in stark profilierte Horizontalwulste aufgegliedert und springen vor den Ecktürmen wie vor den Mittelpavillons risalitartig aus. Aussen in den vier Hauptachsen führen Treppen auch zu den Ecktürmen empor.

Im Bayon ist schliesslich um 1200, nachdem der Buddhismus sich als führende Religion durchgesetzt hatte, der buddhistische Terrassenstupa bzw. Terrassenturm auf das System eines kambodschanischen Tempelberges übertragen. Mehrfache Umbauten, noch unter der Herrschaft des Gründers, haben den ursprünglichen Bau immer wieder verändert. Das zentrale Hauptheiligtum besteht aus einer runden Anlage, was bereits auf Anlehnung an einen Stupa schliessen lässt. Um eine mittlere Kapelle, die ein Standbild des Herrschers in Gestalt des Buddha enthielt, der unter der Schlangenhaube des Königs Mucilinda meditierend dargestellt ist, legen sich radial zwölf Nebenkapellen mit Statuen der Würdenträger als Götter. Wie die grossen buddhistischen Terrassenstupas der Spätzeit oder die buddhistischen Stufentempel, etwa der Ananda-Tempel zu Pagan in Burma, als kreuzförmige Anlage errichtet sind, wobei an die quadratische Mittelterrasse noch vier Seiten Torbauten und Freitreppen angeschoben sind, so steht auch das Zentralheiligtum des Bayon in einem kreuzarmig erweiterten quadratischen Hof. Er ist von Galerien umgeben, die den Unterbau des mittleren Heiligtums umziehen, und mit Pavillons und Türmen an den Ecken versehen. Später legt man noch weitere Galerien um den Bau, die ein Sechseck umschlossen, und fasst die ganze Anlage mit einer äusseren Galerie ein, wie den Angkor Vat.

Das mittlere Heiligtum und seine Kapellen waren wie die Türme und Pavillons der inneren Galerie mit Turmaufbauten bekrönt. Jeder dieser Aufbauten, in riesenhaften Massen ausgeführt, zeigt viermal das Gesicht des Königs, nach den vier Himmelsrichtungen blickend, darüber einen gestuften kleineren bzw. grösseren Turmaufbau. Ähnliche Riesenköpfe mit Stufenpyramiden als Abschluss sehen auch von den fünf grossen Toren herab, die den Eingang in die mauerumwehrte Stadt von Angkor Thom vermitteln. Der König, der im Bayon in der Vielzahl allgegenwärtig sein Reich nach allen Richtungen überschaut, wird in der Gestalt eines selig lächelnden, in zeitloser Ruhe und Überlegenheit mit geschlossenen

Augen meditierenden Buddha dargestellt, jenseits von Zeit und Raum thronend. Man hat an die buddhistische Legende vom Wunder von Śrāvasti erinnert, nach der der werdende Buddha es verstand, sich in zehntausend Buddhas zu verwandeln, die, in der Luft schwebend und Flammen aussendend, sich wie Sterne im Kreis drehten und so die Zweifler an seiner Buddhaschaft in Verwirrung brachten. Ähnlich scheint hier wie in einem sprühenden Feuerwerk der Kopf des meditierenden Buddha den Gläubigen von allen Seiten her aus den Lüften anzublicken. Der Gedanke des mit Augen versehenen Stupa ist hier aufgegriffen, wie er in Nepal, noch mehrfach erhalten, anzutreffen ist. Dort weist der über der Halbkugel des Stupa aufsitzende quadratische *harmikā* vier Augenpaare auf, die nach den vier Himmelsrichtungen blicken.

Für die Betrachtung der indischen Kunst des Mittelalters ist also ihr Ausstrahlungsgebiet "Hinterindien" von besonderem Interesse. Hier fanden die indischen Anregungen einen ausnehmend günstigen Boden. Die Bauten, die hier vom 7.—13. Jahrhundert entstanden, entwickeln und steigern das indische Vorbild, bilden es zugleich aber in selbständiger und grossartiger Weise weiter. In riesenhaften, alle Masse sprengenden Anlagen entfalten sich die indischen Grundformen ins Weitgespannte und Überdimensionale. Bestimmte Denkmälergruppen Indiens lassen sich im Rückblick von den verwandelten Endlösungen "Hinterindiens" ausgehend nach ihrer Bedeutung und ihrer Eigenart deutlicher erschliessen.

Die künstlerischen Schöpfungen "Hinterindiens" stehen für uns durchwegs dank eines reichen Inschriftenmaterials in hellem geschichtlichen Licht. Auch die mythologischen Vorstellungen, die sich mit den grossen Tempelbergen verbanden, sind weit genauer zu überblicken, als in dem an ähnlichen exakten historischen Quellen armen Indien. Die gesamte mythische Vorstellungswelt ist uns gegenwärtig, aus der sie geschaffen wurden.

Die Khmer haben dem indischen Sakralbau, von dessen Vorbild sie ausgingen, eine eigene Prägung gegeben, sie ihrem künstlerischen Empfinden entsprechend umgeformt. Durch sie fanden die indischen Bau- und Kunstformen wie auch die mythologischen Grundlagen eine Steigerung und Ausweitung, die weit über das auf dem Heimatboden Mögliche hinausgriff. Sie setzten die kosmische Symbolik bildhaft in die Architektur um.

KLAUS FISCHER

BENGAL BRICK TEMPLES

THOUGHTS ON EARLY NEAR EASTERN AND MEDIEVAL HINDU TRADITIONS DURING THE INDO-ISLAMIC PERIOD

(Plates 96-105)

I should like to present for your critical consideration the Bengal brick temples of the seventeenth century onwards, the complex forms of which seem to combine Turanian and Iranian elements with hereditary Indian forms.

Our subject belongs to a wider problem namely the interchange of ideas, especially of art forms, within Eurasia. We know about the cultural relations between India and her neighbors east and west from the time of the Indus valley civilization through the Gandhāra period, the Indo-Islamic age right up to the present day. Among others Gadd, Rawlinson, Toynbee, Warmington, Wheeler, van Lohuizen, Foucher, Seyrig, Schlumberger, Bagchi, Chatterji, Ghosh and recently Jairazbhoy have dealt with these aspects of ancient and modern history.

The monuments of Bengal, too, have their importance in this interchange. The Buddhist temple of Paharpur inspired Burmese builders whilst the mosques of Gaur reflect the structural systems of the Islamic Near East. Today I should like to restrict myself to later evolutions. Leaving aside the problem of a "lost temple type of pre-Islamic Bengal,"[1] I shall try to demonstrate that Hindu sanctuaries of the post-Caitanya period were planned according to a scheme in which survived ideas of pre-Islamic Iran. This Bengal brick architecture is known to us from small scale temples to be dated between the beginning of the seventeenth and the middle of the nineteenth centuries on the basis of inscriptions, manuscripts and

[1] Percy Brown, *Indian Architecture*, Bombay 1956, I, p. 183.

popular traditions. Some of the buildings are private property whilst others are protected by the Archaeological Survey of India.[2]

1. Temple compound at Sukharia (Pl. 96). To the north of Calcutta stretches one of the largest groups of recent eastern Indian sacred architecture. A rectangular tank has on both the long sides (north and south) over six small chapels each sheltering a Śiva Liṅga in a single room the hutlike square structures being each covered by upward-bent eaves and a tent-like roof. As in all Bengal brick architecture, we notice the imitation of a flexible bamboo construction. On the western bank rises a Śiva sanctuary said to have been constructed during the middle of the eighteenth century, and consisting of three diminishing square storeys and a final turret resembling a miniature north Indian *śikhara*. Each storey has three arches below convex brick eaves. The corners of the various storeys are crowned by clusters of small *śikhara*-like towers amounting in all to twenty-nine pinnacles. As in earlier Indian temple architecture, the main sanctuary lies hidden under a mass of piled up masonry. The *garbhagṛha* consists of a small, dark cell in the center of the ground floor; and, as in early Hindu temples, this part of the structure is devoid of sculpture and painting.

2. Eastern façade of the Ananta Vāsudeva temple at Bansberia, A.D. 1679. A Bengal brick temple differs from medieval Hindu sanctuaries not only in its structural appearance but also in its sculptural decoration. Instead of large stone statues, small terracotta plaques in low relief cover the walls of the temples. Their subjects are, however, identical with those found on Indian temples from the Gupta period, the Hindu Gods and their deeds, depicted in a modern context. In the seventeenth century the age of Indian sculpture was followed by that of miniature painting; scenes from the *Rāmāyaṇa* and the *Mahābhārata* are thus depicted in Bengal brick temples in the manner of north Indian miniatures. As a consequence of the brilliant outburst of Bengal Vaiṣṇava literature after Caitanya

[2] Literature on Bengal brick art includes, M. Chakravarti, "Bengali Temples and their General Characteristics," *JPASB* V (1909); Mitra, *The Ruins of Vishnupur,* Calcutta 1940; S. K. Saraswati, "Indo-Muslim Architecture in Bengal," *JISOA* IX (1941); K. Fischer, "The Art of Bengal Temples with Bent Eaves," *Summaries of the .Ill India Oriental Conference, Ahmedabad,* 1953; and "Old Indian Terracottas and Contemporary Art," *Roopa Lekha* 25 (1954); M. Dey, *Birbhum Terracottas,* New Delhi 1959; A. Bandopadhyay, *Bankuḍār Mandir,* Calcutta 1371 B.S.; D. McCutchion, *The Temples of Bankura District,* Calcutta 1967; A.C. Banerji, "Folk Temples of the Hooghly District," *JAS* (1967).

(A.D. 1485-1533) traditional Indian themes found new popular expression in both poetry, the fine arts, and architecture.

3. Types of north Indian *śikharas.*[3] A glimpse of recent Bengal brick temples is enough to assure us of the persistence of early Indian architectural traditions as well as the transformation of an ancient iconological heritage into a modern one. We shall consider further examples of these two artistic trends and notice a third one: the survival of architectonic patterns from the ancient Iranian world indicating the common culture of the Eurasian or Indo-Iranian peoples. Let us start with a discussion of features deriving from early Indian architectural symbolism. The *garbhagṛha,* the spiritual center of the whole temple, is surmounted by the *śikhara* the various forms of which are well known. We remember the original plain type of the late Gupta period and the relatively modest specimens of tenth century Bengal temples. From the beginning of the second millenium A.D. we know of central and northwest Indian developments marked by the multiplication of the main *śikhara* by miniature copies of itself; here turrets were piled up around the central tower to form a "mountain." During the Islamic period this evolution either stopped or slowed; about half a millenium later, however, it was again taken up by Bengal builders. They constructed a pyramidical core by receding terraces and decorated the latter by miniature corner towers and one central final *śikhara.* They succeeded in conceiving new tectonical and ornamental forms for the traditional cluster of *śikharas* symbolizing the Meru, the mountain of God.

The student of Indian architecture is familiar with the so-called *pañcāyatana* type, where the main sanctuary is in the center and four attendant shrines are placed at the four corners of the compound, the total number of *śikharas* constituting five.[4] Havell interpreted Hindu structures with five towers as an expression of *pañcaratna* symbolism, and noticed their survival in Indo-Islamic monuments with five cupolas. Be this as it may, at least in the Hindu sphere the iconological meaning of structures with five pinnacles in tower or dome form has been clearly pointed out by Kramrisch and Banerjea.[5]

This *pañcāyatana* idea can also be symbolized by a single massive construction. A huge, tapering pyramidical tower on a square base is sur-

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[3] Brown, *Architecture,* I, Pl. 87.

[4] B. Dhama and G. Chandra, *Khajuraho,* Delhi 1953, Pl. 11.

[5] Stella Kramrisch, *The Hindu Temple,* Calcutta 1946, pp. 200, 218, 255; J. N. Banerjea, *The Development of Hindu Iconography,* Calcutta 1956, p. 542.

rounded by smaller towers rising on the four corners of the building and reproducing the shape of the main temple mountain.[6] We shall soon see how such plans and elevations of the *pañcāyatana* type supplied the basic form of the Bengal brick temple—a form which lent itself early to further additions and multiplications in the typically Indian sense.

4. Keonjhargarh, Orissa, Jagannātha compound and procession street with temple car. Throughout ancient India was spread the conception of the temple as *vimāna,* as a chariot of the Gods. Even now actual wooden cars are used in the annual festivals in both north and south India. In the past the forms of these vehicles corresponded to the leading type of regional temple architecture. Naturally, we do not possess wooden cars of great antiquity; in the later architecture of northern Orissa, however, we can study the close relations between the forms of the temple tower and the procession car.

5. Guptipara, West Bengal. Procession street with wooden car (Pl. 97). Especially in Bengal we have the rare chance to observe the original state of things: a direct correspondence is to be seen between the prevailing house type with curved eaves and forms derived from it such as brick temples and modern vehicles for the car festival.

6. Temple at Bahulara near Bankura with a single *śikhara* tower, tenth century A.D.[7] Monsoons in the alluvial plain of the Ganges delta have spared only a few examples of medieval architecture.[8] The tower sanctuaries of Bahulara or those near the river of Barakar[9] are rare remains of monumental stone buildings. The *śikhara* form of this north Indian regional variety was preserved in the later brick temples.

7. Chandrakona, West Bengal (Pl. 98). Here we see a Bengal bazzar in the Midnapur district during the monsoon. The houses with the curved, so-called Bengal roof in mud, bamboo and straw go back to the early nineteenth century, whilst stone buildings with corrugated iron roofs above convex eaves belong to the present generation. The inflected shape of the superstructure sheds heavy rains quickly without affecting the stability of the house or roof. In the background we notice *śikharas* of the medieval Bahulara types, but on an eighteenth century Hindu temple in

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[6] Such as the Mahābodhi temple, Bodhgaya: A. Coomaraswamy, *History of Indian and Indonesian Art,* London 1927, Pl. 210.

[7] Mookerjee, "The Temples of Eastern Bengal," *Mārg* 7 (1953-54), No. 1, p. 15.

[8] Saraswati, "Temples of Bengal," *JISOA* II (1934).

[9] Saraswati, "The Begunia Group of Temples," *JISOA* I (1933).

baked brick. The forms of *śikharas* vary in the different regions of Bengal; at Chandrakona, near the border with Orissa, they were modified by the influence of the medieval Orissan tower of the Rekhā type.[10]

8. Shahagunj, West Bengal (Pl. 99). East of Calcutta we pass the village of Shahagunj. The villagers worship local deities in two brick structures. One of these buildings represents a variety of the *pañcāyatana* type embellished by one central and four corner miniature *śikharas*. Another sanctuary was enlarged by one storey of the same appearance, and consequently displays nine towers.

9. Kalna, West Bengal, Gopālajī temple. This eighteenth century Vaiṣṇava sanctuary was augmented by one more storey. It resembles the Sukharia type (Pl. 96) and dominates the small town of Kalna. The stepped structure with its bent eaves and the increasing number of miniature towers forms a pyramidical mountainlike mass, offering from each angle new artistic aspects, and inviting one to study its exquisite terracotta decoration.

10. Burdwan, house under construction (Pl. 100). In the Bengal-Bihar borderland villagers settle between towns and the ruins of the historical Hindu and Muslim residences. Here they construct Bengal huts over bamboo framework, using probably the same techniques of bending wood as their ancestors. And like their ancestors they transform patterns of typical regional secular architecture into basic schemes of sacred art. We have just discussed the iconology of temple forms symbolizing the mountain or the cave, and we have now to consider the cosmic symbolism of the house. Eliade[11] has in general explained the meaning of the house of man as an image of the house of God; he has, for example, demonstrated that according to ancient Indian texts the construction of a house repeated symbolically the creation of the cosmos. Further, Ghose[12] has collected instances of Indian domestic buildings informing us of the relations between regional house types and religious beliefs. Indian structures in perishable materials have not been preserved from ancient times as have temples in rock and masonry. Post-medieval and contemporary Bengal, however, supply much evidence that emphasize the relationship between the prevailing house type of a region and the corresponding temple pattern.

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10 N. K. Bose, *Canons of Orissan Architecture,* Calcutta 1932, p. 11.

11 "Centre du monde, temple, maison," *Rome Oriental Series,* 14, 1957.

12 "Primitive Indian Architecture," *JISOA* XVII (1949).

11. Baranagar, temple (Mookerjee, *Mārg* 7, p. 12). In this temple we observe the transformation of a bamboo-straw structure into a brick-and-terracotta building. This simple sacred house could be placed next to its duplicate and thus result in the so-called Jor Bangla type, well known from Burdwan, Kalna or Vishnupur (Brown, *Architecture,* I, Pl. 133). Further, the builders could attach a structure of this house type to other Hindu or Muhammadan buildings on plain level or in several stages. The convex eaves and the bent ridges of the Bengal roof always occur.

12. Axonometry of the Bengal roof (Fig. 1). Bengal craftsmen at the same time solved static problems of arching in brick work and utilized decorative popular forms derived from timber work. I have tried to sketch graphically the leading structural and artistic features. The latter consist of an ingenious adaptation of Eurasian technical developments to north-eastern Indian regional requirements.

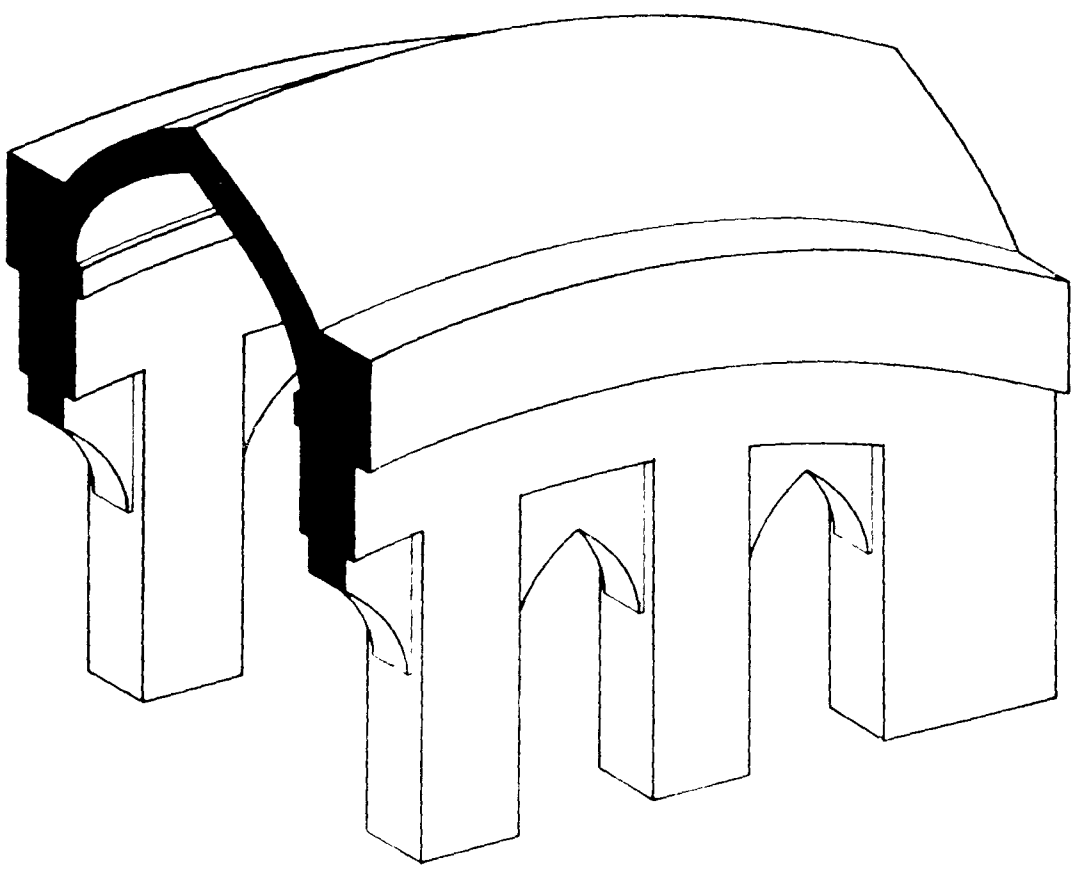

Fig. 1. Axonometry of a Bengal brick roof. Courtesy: Berlin Technical University.

13. Ctesiphon, the so-called Taq-i-Kisra, Sassanian *īwān* with barrel vault.[13] We can now consider foreign elements in post-medieval Bengal art. The history of the barrel vault has a long tradition in both Eastern and Western architecture. In the *īwāns* of the late Sassanian period is reached a technical perfection of vaulting. It seems to have been the model for subsequent constructions on a smaller scale in the Iranian, Turanian and Indo-Islamic world.

14. Bansberia, barrel vault over rectangular corridor (Pl. 101). Bengal brick builders utilized the barrel vault when imitating the local straw-thatched bamboo hut either as a free standing single building or as a side-room of the square, one-or-more-storeyed temple type. This is a unique combination of a form invented for flexible wooden parts with a material destined for durable buildings. The system contrasted with architecture depending upon right angles and mathematical curves, and could be executed only in small scale structures, but it offered few esthetic possibilities for architectural and sculptural decoration.

15. Burdwan, Kanchannagore, ruin of gateway in a dilapidated Hindu residence, erected according to inscription by Kīrti Canda Rāja, A.D. 1737 (Pl. 102). The ornamental qualities of the new technical pattern were soon exploited, first in Bengal itself, for example in the residential buildings of Hindu dynasties, the donors of these new temples. As is frequent in the history of architecture, we notice a symbolic building form being transformed into a decorative one; cupolas that once had been monumental symbols of the dome of heaven are used as embellishments on doorways, with or without conscious iconological meaning.[14] The Bengal house was also taken as a model for Hindu temples in the provinces adjoining Bengal. We refer to Assamese architecture (Mookerjee, *Mārg* 7, p. 11) and to the Gauḍīya type of Orissa (Bose, *Canons*, pp. 78-79).

16. Gaur, Kadam Rasūl, tomb of Fatḥ Khān, *c.* A.D. 1657 (Brown *Architecture*, II, pl. 26.2). Next we witness a phenomenon well known to students of art history: a motif invented under distinct geographical and social conditions for one religious community being adopted because of its artistic qualities by quite different, even hostile, societies. On the border between west and east Bengal we find this building in the shape of a Bengal house or Hindu temple but in reality a Muhammadan tomb.

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[13] R. Ghirshman, *Iran*, Paris etc. 1962, Pl. 172.

[14] E. Baldwin Smith, *Architectural Symbolism of Imperial Rome and the Middle Ages*, Princeton, N.J., 1956, especially Ch.VIII: The Conclusions and their Islamic Implications.

17. Gulbarga, Dargāh of Bandā Nawāz, A.D. 1640 (Brown, *Architecture*, II, Pl. 51. 2). This *bangaldar*, or Bengal roof, was soon used as an ornamental motif also outside the brick building area of Bengal. We know this from the marble architecture of Mughal palaces, from Deccan stone architecture, as in this Gulbarga building, and from Ṭīpū Sultān's wooden palace in Seringapatam.

18. Bansberia, general view of the Ananta Vāsudeva temple (Pl. 103). We continue our survey of indigenous and foreign elements in post-medieval Indian architecture by examining another variety of the seventeenth century Bengal brick temple. A cubical structure with convex eaves is topped by an octagonal tower. Its eight faces are pierced by ogive windows with cusped arches. This horse-shoe-like motif probably originated independently in early Indian wood and rock architecture and in Syrian masonry buildings during the fourth century A.D.; later on it became a favorite ornamental pattern not only in all centers of Islamic art, but also in the so-called flying arch of medieval central and northwestern Indian temples. The eight faces of the tower terminate into the usual bent eaves constituting a kind of undulating basis of a conical helmet.

19. Guptipara, temple in the Vṛndāvana Ṭhākura Maṭha compound. This religious center in the Hooghly district contains several sanctuaries, one of which displays a variant type of the Bansberia temple with its elevation in the sequence of square temple, octagonal temple tower and conical, tent-like cover of the tower. Whilst the ground floor of this and of all other kinds of Bengal temples can be interpreted as a monumentalization of the bamboo hut, and whilst the type covered by five or more miniature *śikharas* is to be understood as a later offshoot of a medieval Indian creation, we have to look outside India to explain the superstructure with octagonal tower and conical helmet. As far as I see this problem has not yet been dealt with. I shall try to offer a solution by glimpses into the history of Eurasian architecture. Monumental sepulchral towers of the Seljuks in the Near East might be regarded as direct models for the decorative miniature towers of Bengal temples. We have, however, to consider two possibilities: whether Bengal builders could have invented such an architectural and ornamental scheme independently, or whether later Indian architects re-adapted forms from Near Eastern sources that earlier had originated on Indian soil and had been transferred to western neighbors. The latter seems to me to be one of the main problems of post-medieval Indian art to be observed equally in the cases of the so-called Timurid double-dome or the Turkish triangle pendentif.

20. Kayseri, Döner Kümbed, A.D. 1276; and Lake Van, Mausoleum of Ḥalīmā, A.D. 1322.[15] Brown, *Architecture,* II, pp. 7, 16, has demonstrated that the influences of the building art of the Seljuḳ empire centred in Asia Minor had by the thirteenth century A.D., actually reached the border of India, and affected Indian architecture at the particular moment when Islam was rising to power at Delhi. I should like to add some further observations, and to pose the question, can motifs of Seljuḳ art continue to be used, or be revived in Bengal brick architecture from the seventeenth century onwards? In the turbehs of Western Asia we find, for instance, the structural prototypes of circular or octagonal towers with either blind arcades or window-openings, but constantly covered by tent-like conical helmets.

21. Plan and combined section and elevation of Mīl-i-Radkān, Varamin, tomb tower of 'Alā'al-Dīn.[16] The structural system of the turbeh, of the sepulchral tent tower, is comparatively simple: an octagonal or cylindrical room is closed by a cupola and the whole building is capped by an octagonal or conical tent. Since Bengal brick temples have not yet been surveyed in detail I cannot show you the corresponding cross-section of the Bansberia temple tower; I can only ask you to compare the similarities of the exterior views. The Iranian tower can rise above a vaulted chamber as regularly as the miniature Bengal tower. Since from the Seljuḳ period onwards cultural exchange persisted between Asia Minor and India (for example, the seventeenth century architecture of Bijapur reflects elements of Ottoman building art), and since, in later Indian architecture, foreign motifs were simultaneously used for the decoration of Hindu and Islamic profane and sacred buildings, I think it possible for patterns of the Seljuḳ turbeh to reappear in the superstructures of Hindu temples as far east as Bengal and as late as the seventeenth to nineteenth centuries. I do not know of any historical documents explaining the connections between thirteenth century Turkey and seventeenth century Bengal nor of any intermediary art centers communicating architectural features from the Near to the Far East during half a millennium. We are probably facing a phenomenon familiar from Gandhāra art and from other aspects of the Indo-Islamic period, namely the great intellectual horizon of donors and migrating artists in the past. Eurasian craftsmen possessed a vast know-

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[15] T.T. Rice, *The Seljuks,* London 1961, Pls. 34, 35.

[16] D.N. Wilber, *The Architecture of Islamic Iran, the Il Khanid Period,* Princeton N. J. 1955, Plans 11, 12.

ledge of traditional forms that prevailed in distinct regions and periods, but which could, however, be adapted to other requirements in quite different surroundings under changed social conditions. This process becomes still more obvious when we witness repeatedly not a mere imitation of patterns but a kind of re-adaptation of forms belonging to a common Eurasian stock.

22. Byzantine domed churches of cross-in-square type: Akhpat, Armenia, tenth century; Macedonian church with pendentives; Graćanica, Yugoslavia, fourteenth-sixteenth century.[17] Eurasian art may include pre- and proto-historic forms, creations of ancient Indian religious communities, Islamic contributions and Christian works. Probably sometimes the same builders worked on both churches and mosques (Wilber, *Islamic Iran,* p. 91). During the first centuries of the second millenium A.D. Byzantine churches possessed features which independently showed remarkable affinities to the Bengal brick temple with the one central tent-like tower, as well as to the five-*śikhara* system. Such external resemblances may, however, be due to an old common Eurasian heritage.

23. Guniyar, ruin of *vihāra.*[18] Buddhist chapels in Gandhāra are the earliest examples I know which show a system of a tower domed inside and externally covered by a tent-like pyramidical roof. In both Eastern and Western architecture of subsequent periods we find numerous related solutions of this type of superstructure where two systems of vaulting or roofing are superimposed. Possible connections between Oriental vaulting, Armenian structures and European art have been reviewed long ago by Glück.[19]

24. Sketch by Rubruk of tents at the Mongol court in A.D. 1253 (Rice, *Seljuks,* Pl. 33). As already suggested there are many "missing links" between Buddhist Gandhāra, Seljuk Asia Minor and post-Caitanya Bengal. Eliade[20] has taught us to consider religious and artistic traditions even when neither literary nor archeological monuments have been preserved through decades and centuries. Regarding the culture of Iran and adjacent countries Erdmann[21] has explained that gaps in the actual preservation of monuments should not induce us to overlook the possibility that those monuments did exist. It is under these restrictions that I venture to

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17 H. Lützeler, *Weltgeschichte der Kunst,* Gutersloh 1959, p. 528.

18 A. Foucher, *L'art gréco-bouddhique du Gandhāra,* Paris 1905-1951, I Figs. 49, 50.

19 *Archiv für Geschichte and Ästhetik der Architekur,* IV (1919-20), p. 96.

20 *Patterns in Comparative Religion,* London 1958.

21 "Lückenforschung im iranischen Kulturkreis." *Kunst des Orients* I, 1950.

interpret the turbeh-like towers above the *garbhagṛha* of Bengal temples as a conscious or subconscious adaptation of ancient Eurasian structural form by which in the remote past a mobile form of housing was monumentalized. Wherever Central Asiatic nomads settled, as for example the Kuṣāṇas in Gandhāra, they imitated certain forms of the nomadic tent by monumental forms of the cupola or the tent-roof. The creators of Asian empires sometimes preserved the memory of their nomadic origins. In an architecture as late as that of the Mughal court with all its splendor of red sandstone and white marble we continue to find extensive use of tents. Thus the Mongol yurt, too, was transformed into the Seljuḳ turbeh. We might, therefore, surmise that a tower in turbeh pattern crowns the temple of Bansberia not by mere chance. While in the ground floor is imitated the hut of a Bengal village, in the superstructure is copied the dwelling of the nomadic ancestor.

25. Systematic plan of a Bengal brick temple (Fig. m). During the centenary celebration of the Archaeological Survey of India in 1961 we stated the work hitherto done to explore the native character of Indian art as well as the age-long relations between Indian and foreign styles. At that time we also realized that certain groups of monuments still awaited detailed research. Recent Bengal architecture, for instance, has not yet been systematically studied. Therefore no exact plan of any temple has been drawn. Thus I can only offer a schematic sketch of the typical system.

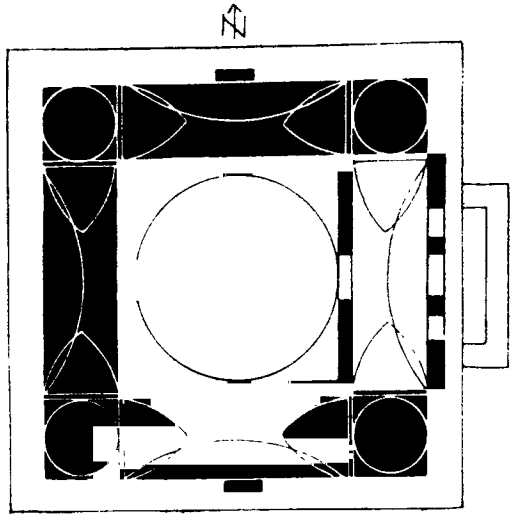

Fig. m. Systematic plan of a square Bengal brick temple.
Courtesy: Berlin Technical University.

It constitutes the basis of every Bengal brick temple, whether single or multi-storeyed, whether crowned by one turbeh-like central tower or several miniature *śikharas*. Like the photographs and diagrams presented earlier, it may reveal the persistence of Indian creations and the transformation of Near Eastern inventions.

26. Bansberia, dome above central cell *(garbhagṛha)* (Pl. 104). Notice a small central square covered by a cupola. Squinches rise in the four corners; between these ogive constructions and the adjoining four blind arcades, stepped pendentives form the transition to the circle upon which rests the dome. This structure is surrounded by a larger square consisting of eight rooms. Rectangular compartments form a Greek cross on the four sides of the central square. These corridors have the function of assembly rooms like a *maṇḍapa*. They are covered by a special kind of barrel vaulting (Pl. 101) springing from convex eaves and culminating in a bent ridge.

27. Bansberia, view from southern bay into the dome above south-eastern corner room (Pl. 105). The remaining small squares in the four diagonals of the central main square are covered by smaller cupolas in the shape of the central one. Whilst the middle dome is hidden by the superimposed octagonal tower, the four domes over the corner rooms lie beneath the contact points of the bent eaves. The transition zone between square and dome consists of pendentives formed by alternating plain courses and rows of cubes placed across.

28. Farrashband, plan of the later Sassanian fire temple.[22] We notice a remarkable resemblance in the ground plan of the post-medieval Bengal Hindu temple and the late Sassanian fire temple. Again we may content ourselves with just noting the coincidence of building forms but it may also be possible to collect archeological evidence indicating that this particular plan and elevation were not chosen by mere chance, that during the history of Eurasian architecture Iranian creations of the middle of the first millenium A.D. were linked with transformations of Bengal building art of the second half of the second millenium A.D.

29. Plan and reconstruction of a building represented on a Sassanian bronze salver.[23] The superstructures of the oldest Sassanian buildings have been destroyed by the ravages of time and man. Its typical elevation may

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22 Vanden Berghe, "Récentes découvertes des monuments sassanides dans le Fārs," *Iranica Antiqua* I (1961), Plan III.

23 *Survey of Persian Art*, London 1938, I, p. 556, Fig. 161.

be reconstructed, however, from the representation of a sacred building on a Sassanian bronze dish. These sanctuaries had a central main dome surrounded by four minor ones and by four barrel vaults. This stereometric composition was executed in perfect measurements and seems to have appealed highly to contemporaries and the following generations. The combination of technical solidity and artistic embellishment led to limitation and variation through the ages in the most varied historical, social and religious contexts.

30. Pattern of five-domed Byzantine church. Rumpler,[24] Erdmann[25] and Swoboda[26] have demonstrated the importance of the Persian fire temple in architectural evolution, East and West. It was, for example, the model for middle and later Byzantine churches linking the domed basilica plan with the cross-in-square type (Lützeler, *Weltgeschichte,* p. 528). Four columns support twelve arches which divide the interior into nine bays. The central bay is covered by a dome raised high on a drum and capped by a low-pitched conical roof. The four corner bays are similarly covered by domes, but on lower drums[27]. Furthermore, we find quite similar structures of an early date in the eastern Iranian and Central Asian world, and of a later period in Indo-Islamic building art.

31. Chung-i-Derazgu, ruin of two-storeyed mud brick tower. During my excursions in Afghan Seistan, I discovered, near the Helmand lake, fortresses and towers in sun-dried brick. The upper storey of one of these watch towers was reached by an outer staircase. Remains of vaulted corridors and of square rooms with squinch-domes allow us to reconstruct a five-dome plan of the Sassanian type[28].

32. Chung-i-Darazgu, interior view[29]. On the basis of related Afghan examples of barrel vaults and cupolas on pointed squinches I venture to date this ruin in the transitional periods; between Sassanian and Islamic

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24 *La coupole dans l'architecture Byzantine et Musulman*, Strasbourg 1956, Fig. 9a.

25 *Das Iranische Feuerheiligtum,* Leipzig 1941, p. 65.

26 "Connexions and Mutual Influence of Islamic and European Art," *Islamic Literature* V, 1953, 1372 A. H., p. 110.

27 Cecil Stewart, *Early Christian, Byzantine and Romanesque Architecture,* London 1954, pp. 76, 92.

28 K. Fischer, "Indo-Iranian Contacts as Revealed by Mud-brick Architecture from Afghanistan," *Oriental Art,* 12, No. 1 (1966), Figs. 8, 14, 7.

29 K. Fischer, "Der spätsassanidische Feuertempel-Typus im Obergescho eines Lehmziegelturmes in Afghanisch-Seistan und die indo-islamische Baukunst," *Festschrift für Whilhelm Eilers,* Wiesbaden 1967, Fig. 2. opp. p. 424.

architecture about the Hijra. *The Survey of Persian Art* (II, pp. 945-6) deals with the mosque of Hazāra and the mausoleum of Ismā'il at Bukhara, about A.D. 900, where we observe the adaptation of the fire temple plan to the Islamic world.

33. Ruined mud brick stupas in the Turfan oasis[30]. Let me conclude with a survey of monuments in which are combined the Iranian and Islamic five-dome plan with the Indian five-tower elevation. The earliest examples come from another part of the huge Central Asian zone where sun-dried brick was the main building material. Remains of stupas in Buddhist Turfan consist either of pyramidical towers or of square mass constructions with one central tower and four surrounding corner towers.

34. Ruined mud brick stupas in the Turfan oasis.[31] An old and, as far as I know, unpublished photograph of the Turfan expeditions enables us to recognize a square building walling in a central square chamber that had been covered by a dome. The four corners of the structure had been decorated by small tureets. Thus the builders of this stupa or temple apparently wished to emphasize its superstructure both by a dome and by towers. In Buddhist Turfan we come across several unique building forms as for example a transition between square and circle affected by the so-called Turkish triangle, or the stupa in the shape of a structural domed building. Perhaps one may ascribe to the artists of this cultural contact zone the combination between the Iranian five-dome plan and the Indian five-tower elevation. During the following millenia Indo-Islamic architects created impressive monuments uniting spacious halls betraying the tradition of Iranian vaulting technique with soaring towers deriving from Indian constructions. We shall now quickly examine some well-known Muhammadan buildings marked by Indian features, and Hindu or Jaina temples distinguished by elements of Islamic art.

35. Mandu, Tomb of Hōshang Shāh, A.D. 1440 (Brown, *Architecture,* II Pl. 43 (2)). Square structure, surmounted by a large central dome with a cupola at each corner.

36. Tomb of 'Azam and Mu'azzam near Sarkhej, A.D. 1457. Square, with four corner towers and one central dome. In the four sides are staircases covered by ascending barrel vaults.

37. Delhi-Begumpur. Reconstruction of a pillared hall in Bārā Khambā, residence of a nobleman during the Lodī period, A.D. 1451-1517

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[30] H.G. Franz, *Buddhistische Kunst Indiens,* Leipzig 1965, Pl. 275.

[31] Photograph: Archives, Indian Museum, Berlin-Dahlem, B 883.

(Brown, *Architecture,* II Pl. 13). Central main square with cupola surrounded (1) diagonally by small, domed squares, and (2) in the axes of the Greek cross by rectangular rooms with pyramidical roofs.

38. Gwalior, tomb of Muḥammad Ghauṣ. *c.* A.D. 1564 (Brown, *Architecture,* II Pl. 19). Square ground floor decorated by corner pavilions and by kiosks in the axes. Square center elevated to second storey with corner pavilions. Central dome.

39. Delhi, Humāyūn's tomb, A.D. 1564 (Brown, *Architecture,* II, Pl. 62). Central square with main cupola surrounded (1) diagonally by bastions with domed pavilions, (2) in the axes by vaulted *iwāns.*

40. Golkunda, tomb of Muḥammad-Ḳulī Ḳutb Shāh, A.D. 1580-1611.[32] Main dome of the square building imitated by miniature domes on small minaret-like turrets at the corners.

41. Bijapur, so-called Gol Gumbaz or the tomb of Muḥammad Ādil Shāh A.D. (1626-1656) (Brown, *Architecture,* II, Pl. 51.1). Square transformed by intersecting arches into the circular base for a huge dome; corners of the square decorated by projecting turrets with miniature cupolas.

42. Feriā Bāg near Ahmadnagar, *bārādārī,* probably of a Mughal nobleman during the seventeenth century.[33] Square building in the center of a square terrace. Central dome surrounded (1) diagonally by octagons with small cupolas, (2) in the axes of the Greek cross by extended octagons each covered by a middle dome flanked by semi-domes. The latter system might be looked upon as a miniature copy of the early Byzantine Sancta Sophia (now a mosque and museum) at Istanbul. Its dome is supported on the east and west sides by transverse arches, beyond which are semi-domes of the same height (Stewart, *Architecture,* p. 69).

43. Agra, Tāj Maḥal, A.D. 1627-58 (Brown, *Architecture,* II, Pl. 88). Main dome repeated by miniature domes on pavilions at the corners of the building. Four minarets towering on the corners of the square terrace.

44. Dacca, Eastern Bengal, tomb of Bībī Perī, A.D. 1684.[34] Square chamber covered by corbelling layers and crowned by pyramidical superstructure with lantern. This central compartment is surrounded (1) diagonally by smaller squares, (2) in the axes by rectangular rooms, all of them covered by ancient Indian corbel technique.

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32 *Hyderabad, A Guide to Art and Architecture,* Calcutta 1951, Photograph opposite p. 44.

33 O. Reuther, *Indische Paläste und Wohnhäuser,* Berlin 1925, p. 76, Pl. 169.

34 A. Cunningham, *ASIR* XV, 1882, p. 128.

45. Rajgir, modern Jaina temple on Vaibhara Hill (Fischer, *Indo-Iranica* 8, No. 1, Fig. 5). Cubical *garbhagṛha* with one main central dome and four smaller domes on the corners. Islamic vaulting technique[35] and ornamental forms adapted to the requirements of the Jaina community.

46. Bankura, Śāmrāi temple (Mookerjee, *Mārg* 7, p. 16). Combinations of Near Eastern architectural features with ancient Indian traditions are especially obvious in the work of Bengal craftsmen from the seventeenth century up to the present day. Bamboo forms supplied the models not only for brick but also for stone structures imitating brick architecture, and, as we have already observed, even for modern roofs in corrugated iron.

A brick temple at Bankura was raised on the plan of the Sassanian fire temple (Vanden Berghe, *Iranica Antiqua* I, plan III). Its central dome and four corner domes and four barrel vaults cover the *garbhagṛha* and corridors of the Hindu sanctuary. One central tower and four corner towers continue the tradition of the indigenous *pañcāyatana* type (Coomaraswamy, *History,* Pl. 210). The eaves of the building itself, of the middle tower and the two rear ones, are bent upwards in the manner of the Bengal bamboo house (Pl. 100). The two frontal turrets, however, are decorative copies of the medieval north Indian *śikhara* as known from monumental structures in Orissa and at Bahulara near Bankura (Mukherjee, *Mārg* 7). It is also possible to suggest from related studies in recent Indian architecture[36] that post-medieval Bengal architects were still familiar with the construction and iconology of traditional forms like the *śikhara.*[37] Further, we may consider the possibility that they modified conventional formulas when devising the modern two-, three- or four-storeyed building types. Finally, the bow-shaped arch with corresponding crescent designs may go back to early Indian art, but all over India the usual name for a building of this type, *bangālī chatrī* (Reuther, *Indische Paläste,* pp. 50, 99), is not a historical but a geographical designation.

CONCLUSION

The architecture of the Bengal brick temples both preserves traditions of indigenous Indian character and belongs to the general evolution of world art.

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35 K. Fischer, *Caves and Temples of the Jains,* Aliganj 1956, photograph p. 4.

36 Bose, *Canons;* P. O. Sompura, *Dīpārṇava,* Prabhas Patan 1960.

37 Mānasāra Series VII, London 1946, pp. 490-2.

(1) Like most of the buildings on Indian soil the Bengal temple displays some features that derive from the past and are well known from medieval art: (a) The holy structure imitates the dwelling house of man which itself signifies the cosmos. (b) The forms of the bamboo house, the temple-car and the brick temple are similar. (c) The dark interior contains the stone or bronze image of the presiding deity whilst on the exterior walls are terracotta panels depicting Hindu legends. (d) The multi-towered variety resembles the traditional *pañcāyatana,* the structural *śikharas* being transformed into decorative ones. (e) By a multiplication of *śikharas* above the bent eaves, Bengal craftsmen created mountain-like masses expressing the Meru conception of the north Indian medieval temple in a modern context.

(2) Due to established Indo-Iranian connections the plan of another temple type was adopted from the Sassanian fire temple with its five cupolas and four barrel vaults over a square plan.

(3) Cultural relations between India and her western neighbors persisted during the Islamic period. (a) Thus we find in a distinct Bengal temple type having as symbol for Mt. Meru a central tower the reflection of the form of the Seljuḳ turbeh which itself was a monumentalization of the nomadic tent. (b) The technique of vaulting and doming is derived from contemporary Bengal Islamic structures betraying old Near Eastern and recent Muhammadan traditions.

(4) Builders of the Bengal brick temples demonstrated a creative genius. During the so-called post-medieval period they acted as original artists always did: they both utilized hereditary forms and invented new forms. Lacking the social background that was responsible for the huge temple complexes of medieval central and north India and the temple cities of the Dravidian south, they restricted themselves to small scale buildings. They succeeded in amalgamating traditional Indian features and foreign elements into a new aesthetic unity. Iranian and Islamic forms were Indianized. The Indian *pañcāyatana*-elevation and the Sassanian five-dome plan were blended together. The Indian character of the buildings always prevails: Islamic vaulting technique serves to monumentalize the perishable regional house-type but even under pendentive or squinch domes the *garbhagṛha* conveys its idea of a cave-like holy chamber. The new Bengal creation appealed to the donors and to the public all over India. Thus the Bengal roof came to decorate Hindu and Jaina temples, Hindu residences, and Islamic secular and sacred buildings. General trends of artistic evolution were common to ancient Eurasian and later Indo-Islamic

periods: the dome as well as the *śikhara* were created as monumental and symbolical structures—signifying the heavens and Mt. Meru respectively —and were both transformed into miniature and decorative forms.

(5) When observing external similarities between later Indian architecture[38] and Near Eastern or Central Asian forms we remember related problems of Harappan or Gandhāra art. (a) Some correspondences may be accidental and due to common possibilities and restrictions faced by craftsmen performing similar tasks in all countries and periods. (b) In some distinct cases, however, we are able to trace direct or indirect influences from leading Asian art provinces to Indian art schools. (c) Other conformities between Indian, Iranian, Turanian and Mediterranean architectural features may also be explained by a common Eurasian heritage developing local trends in various countries. (d) Regarding the fundamental plan and elevation of the Bengal brick temple I should like to raise the possibility that original Indian creations were modified in the Indian borderlands and later on, consciously or subconsciously, re-adapted and transformed by Indian artists, although I am not yet able to present all the historical facts leading to this cultural exchange.

[38] *Cf.* the general survey by H. Goetz, "Late Indian Architecture." *Acta Orientalia* 18 (1940).

K.R. SRINIVASAN

TEMPLES OF THE LATER PALLAVAS

(Plates 106—126)

I. INTRODUCTION

With the second half of the sixth century A.D. began a very important epoch in the history of South Indian architecture and allied arts. During the three centuries that followed, the movement it gave birth to developed forms and standards which, through regional variation and the passing of time, grew into the distinct traditions that have persisted to our time.

The beginning of this epoch coincides with the rise to power of three great dynasties whose kingdoms occupied the entire peninsula south of the Vindhyas up to Kanyakumari and rivalled each other in polity and the arts. These were the Cāḷukyas, with their capital at Badami; the Pallavas of the Siṁhaviṣṇu line, with their capital at Kanchi; and the Pāṇḍyas, with their capital at Madurai. While the two latter continued to rule for three centuries and more, the Cāḷukyas were supplanted by about the middle of the eighth century by the Rāṣṭrakūṭas of Mānyakheṭa, who, however, continued the Cāḷukya traditions of art. A collateral branch of the Cāḷukyas, called the Eastern Cāḷukyas, with their capital at Veṅgī, rose to power in the northern coastal area and endured for over four centuries, outliving the Pallavas and the Pāṇḍyas. Minor dynasties reigned in small buffer states between the dominions of the great powers. These were the Muttaraiyars and Urukkuvels of the south, the Gaṅgas, the Telugu Coḍas and Bāṇas on the west and the north, who owed allegiance now to one and now to the other of the great powers. Under their patronage grew the idioms which derived from or contributed to the nexus of the architectural norms and iconographic forms that were set up in the three major regions of development.

The critical period started with the adoption of stone in architecture and sculpture by the non-Buddhistic (Brahminical and Jaina) creeds, when the Cāḷukya Maṅgaleśa in Badami and the contemporary Pallava

Mahendravarman I in Mandagapattu (South Arcot District) some sixty kilometers south of Kanchi initiated rock architecture in their respective regions by excavating temples of the *maṇḍapa* and *layana* types. As their foundation inscriptions proclaim, Maṅgaleśa's cave-temple was dedicated to Viṣṇu and Mahendra's to the Trimūrtis. A critical appraisal of their social milieu and the religious cults then prevalent in the South, particularly Tamil Nad, as found embodied in the contemporary and earlier Tamil literature (the Saṅgam works), shows that this marked an important departure from the current conventions where stone for long had had a funerary association, the result of more than a millennium-old megalithic tradition, evidenced by a great profusion of that period's monuments found scattered over the south, advancing into the first half of the millennium after Christ. The strong, traditional association of stone with the dead prevailing among the peoples of the South must have been a deterrent to the adoption of stone as material in temple building till about the close of the sixth century, and in carving images of gods for worship till the first half of the seventh.

This contrasts with the fact that stone had long been used in Buddhist religious monuments, and well it might, as they centred round the essentially funerary *stūpa* — the *dhātugarbha* — as the main object of worship. This convention must have prevailed in the Deccan and coastal Āndhra too where one observes that, besides Buddhist monuments which employed stone in their composition, there had been a continuous local tradition of rock architecture or *layana* architecture resulting in the creation of notable Buddhist *caityas* and *vihāras* as against the absence of Brahmanical and Jaina constructions in the same material. Even if it be argued that the far South could not have been unaware of this tradition but could not employ the material in a like manner due to the absence of soft rock formations of good sandstones and traps, the strong megalithic or sepulchral association of stone and the memory of such association would stand out as the more important factor retarding the acceptance of stone for religious edifices by the other creeds. The Śaiva Nāyaṇmārs and Vaiṣṇava Āḻvārs, the hymnist saints of the revivalist movement of the three centuries of Pallava-Pāṇḍya power, have in their peregrinations and hymns on various temples and sacred places of their times, running into thousands, studiedly ignored the new stone creations even though they were sensational and of royal authorship, possibly because they were contrary to tradition or *sampradāya*. Otherwise one cannot satisfactorily account for the non-use of stone or absence of stone monuments and sculptures in respect of the

Brahmanical and Jaina religions of the South, which were as potent in their influence as Buddhism, if not more, and which are the only two that have survived Buddhism and endured in all their vigour till today and which having once accepted the new material — stone — revelled in course of time in the proliferation of stone temples all over the area, including reconstruction of the earlier brick-and-timber temples sanctified by the hymnist saints.

The departure from the conventional use of brick and timber for non-Buddhistic structures and the adoption of stone in the rock-architecture mode for a Viṣṇu temple by Maṅgaleśa, and in his temple for the Trimūrtis by Mahendra, were indeed bold. But it is also to be remembered that Maṅgaleśa's creation was in connection with the Nārayāṇabali ceremony or śrādhha of his beloved brother Kīrtivarman as the related Badami inscriptions detail. Maṅgaleśa chose the fine-grained and evenly laid sandstone cliff at Badami, a material as soft and easy to work in as was the amygdaloid trap of the preceding Buddhist architectural creations of the Deccan and Western India, and very much like the sandstones used by the earlier Mauryas and their successors in the north and the other similarly tractable stones like the limestone of the north-western India which was employed by the Gandhāra artists and others of the region, or the marble-like limestone of Palnad exploited by the Sātavāhana and Ikṣvāku in the Krishna Valley in Amaravati, Nagarjunakonda and other Buddhist centres. Thus Maṅgaleśa could draw from almost a millennium-old continuous tradition of work in soft rocks and utilise the available know-how in his first creation in sandstone which was soon followed by others in the same material in Badami and other places in his country.

The facility with which the evenly bedded sandstone could be quarried, by the expansion of moistened wooden wedges inserted into previously jumped holes and by pick and hammer, soon enabled the Cāḷukyas to construct structural temples. The same material was used by the succeeding Rāṣṭrakūṭas and in the earlier period of their rule by the Western Cāḷukyas of Kalyāṇa. Subsequently in the times of the Yādavas, Hoysaḷas and Kākatīyas, the much softer schists, or soapstone, or talc, that could also be quarried in thinner sections of the thickness of brick, were employed in a more elegant manner. This soft stone tradition in the Deccan and north Mysore extended over almost the whole peninsula and ended only with the advent of the Vijayanagar Empire in the fourteenth century, when the hard granites came into vogue uniformly throughout the empire as the chief building material.

But Mahendra Pallava, in the absence of such soft rock material in his own dominions, had really outstripped his Cāḷukya rival in his bolder choice and successful completion of his cave temple for the Trimūrti's in the hard rock of Mandagapattu. This new mode must have called for the adoption of different types of tools and technique, after a break of nearly a millennium from the time of Asoka and his grandson Daśaratha. These monarchs had excavated the cave shelters for the Ājīvika monks in the hard quartzose gneiss of the Barabar, Nagarjuni and Sitamarhi hills in Bihar — where the technique of quarrying, carving and polishing had started and ended within the same century within the span of three generations. Barring these exceptional hard stone creations, Asoka and his successors had preferred to use a softer stone, namely the Chunar sandstone, for their celebrated monuments which they carved and carried with infinite labour to places far from the quarry sites for erection. Thus the intermediate tradition in the whole country was of softer stone, wherever it was adopted for use, till the Pallavas again went back to the harder rocks like the gneisses, granites and charnockites, materials that afterwards came to be used exclusively for the stone monuments and structural temples of the South, to the present day. In the light of this, Mahendra Pallava's foundation inscription in Sanskrit at Mandagapattu, in which he exults in his achievement and calls himself *vicitracitta* and *lakṣita* who created an *āyatana* (temple) for Brahmā, Śiva and Viṣṇu without the use of the conventional materials like brick, timber, metal and mortar, will be especially significant. The first cave temple was soon followed by other such structures in different parts of the Toṇḍaimaṇḍalam — the home country of the Pallavas — in the native gneissic, granitoid or charnockite rocks. The farthest of these, away in the heart of the Coḷa country which had come under Mahendra's rule, is the upper rock-cut cave at Tiruchirapalli.

His illustrious son and successor, Narasiṁhavarman Māmalla, besides continuing Mahendra's achievement, initiated a more ornate series of cave temples, all confined to Mahabalipuram, and furthermore started in the same place the novel mode of carving out entire and full-sized monolithic stone *vimānas,* the so called *rathas,* out of rocks *in situ,* besides carving out great sculptural compositions in the same kind of rock. These Pallava monolithic temples were perhaps the outcome of the rapid erection of structural temples in sandstone by the Cāḷukyas, which served as a challenge and the fact that Māmalla, after conquering the great Cāḷukya Pulakēśin II, was in actual occupation of his capital Badami for twelve years. While the Pallavas could in the span of about half a century perfect the technique

of cutting *maṇḍapa* type temples into hard rock, or of carving sculptures on them, working inch by inch with the help of the chisel and hammer — by alternate pecking and deft cross strokes, the chisels often changed after re-tempering — they had not obviously found the method of quarrying hard stone blocks of sufficient size and length for shaping and dressing, to build structures and with which to span spaces. This must have made Māmalla, and after him his two immediate successors, devise the expedient of carving out full scale architectural sculptures, which the so-called *rathas* are.

These *rathas* or temples render into stone almost all the forms, until then current, of brick and timber *vimānas* of diverse plan and rise, and also faithful reproduction in the new material of the details even of joinery and fastenings. As such they form an enduring landmark and firm starting point for the study of the formal architecture of the southern *vimānas* as was prevalent at the commencement of the seventh century. They also help to give us a cogent and critical appreciation of succeeding developments as noticed in the later stone temples of Tamil Nad and its peripheral regions, exhibiting of course their characteristic local idioms. That the *rathas* in their extant forms and variety could not have been the spontaneous creation of one royal patron and unrelated to any existing brick-and-timber models will only be very clear. This is a fact the realisation of which will give the lie direct to the general assumption that the southern *vimāna*, at least, cannot be said to have assumed its typical form before the eighth century. It will also dispel the doubts expressed about the applicability of the ternary classification—Nāgara, Drāviḍa and Vesara. The classification on the other hand will be found to be particularly applicable to the southern *vimāna* types. The classification based on the four-sided polygonal, or circular — including apsidal — plans of the body or *śikhara* of a *vimāna* was, it will be clear, but a mere codification of known and existing facts and features in the earliest of the southern *śilpa* and *āgama* canons.

All these monolithic temples are not quite complete, in spite of the fact that Mahendra II and Parameśvara I tried to complete them according to the original design as initiated by Māmalla, while side by side they also carved a few new monolithic *rathas* of their own.

Incidentally, the time element involved in cutting a cave temple and carving the interior in such new and hard materials, requiring tools and technique different from those long used in the manipulation of the softer rocks by contemporary Cāḷukya and the earlier authors of rock-

excavations and sculpture, deserves brief consideration here. Fortunately as regards one of the Buddhist caves of Western India, Cave No. 3 at Nasik, we have epigraphical evidence (*Epigraphia Indica,* Vol. 8, pp. 70-4, Nos. 2-5) to show that the excavation of the cave started by Gotamiputra in the last year of his reign (anno 24) and completed only in the nineteenth year of his successor, Puḷamāvi, when it was consecrated by Bala Siri, took twenty years. Similarly, on the basis of its inscriptions it has been calculated that excavation of the Karle *caitya* should have stretched between A.D. 40-A.D. 100. This being the case even in works where softer trap and long accumulated experience and skills were involved, one can calculate the time required for excavating a cave temple in the adamantine granites or charnockites of Toṇḍaimaṇḍalam or carving a *ratha* out of the quartzose gneiss of Mahabalipuram, where new techniques and skills, without any immediate antecedents, had to be developed. It will not, therefore, be a valid assumption that the five so-called *rathas* were altogether the handiwork of Māmalla alone, nor, as one scholar has recently asserted, that all the cave temples, *rathas,* sculptures, and structural temples in Mahabalipuram, besides some more in Panamalai and Kanchipuram, were the sole work of Rājasiṁha Pallava, who ruled for less than thirty years from A.D. 700-728. Besides, such an assertion would ignore the diversities and devlopmental trends noticed in the design, plan, elevation, embellishment and sculpture and other aspects so evident in these monuments.

Before entering into a discussion of the *vimānas,* monolithic and structural, of the Pallavas and their axial and peripheral adjuncts that constituted the temple complex, a brief historical notice of the Pallavas in the context of chronology and architectural creations is necessary. As is being increasingly realised, an objective study of architecture and related sculpture should be on a strictly regional and chronological basis; dynastic groupings, hitherto followed, are to be avoided as far as possible. To fail in doing this would be to ignore not only the contribution of patrons other than royal, but also the regional potentialities and historical circumstances that influenced growth in different regions, as also the interplay of cross currents and new trends. But in the present case the material would tend largely to coincide with a dynastic grouping and nomenclature, because the authorship of most of the monuments extant and under study was royal, as is attested by their foundation inscriptions, and as the inception of new modes in architecture and sculpture was their pioneering enterprise. A regional classification of the material would be the "Toṇḍaimaṇḍala style of temples under the Pallavas."

II. HISTORICAL BACKGROUND OF THE *RATHAS*

Simhaviṣṇu Pallava (*c.* A.D. 550-80), the founder of the line, extended his kingdom as far south as Tiruchchirapalli, the traditional Coḷamaṇḍalam, on the banks of the Kaveri.

He was succeeded by his able son Mahendravarman I (*c.* A.D. 580-630), *vicitracitta* and *lakṣita,* who excavated the first rock-cut cave temple for the Trimūrtis at Mandagapattu called Laksitāyatana, as his foundation inscription in Sanskrit on the cave temple proclaims. This was followed by nearly a dozen others of his own making in different parts of Toṇḍaimaṇḍalam dedicated to Śiva or Viṣṇu, of which eight, named after one or other of his different titles, bear his foundation inscriptions, while the rest can, even in the absence of such inscriptions, be easily assigned to him or his time on grounds of style.

Owing to the utter novelty of the material and its unknown potentialities, the individual excavations are small in concept and execution as compared to contemporary and earlier excavations elsewhere where it was softer rock that had to be handled. These are essentially *maṇḍapa* temples with equally spaced, massive, short pillars and pilasters *in antis* at the extremities on the façade of the front hall or *maṇḍapa* proper with a distal or lateral cubical sanctum cell. The shrine face, more or less projected into the *maṇḍapa*, depicts the moldings of the *adhiṣṭhāna* (socle) the *pāda* (pilasters) on the wall on either side of the simple shrine opening, and *prastara* (entablature), with its most prominent component — the *kapota* (cornice) — decorated at intervals by *alpa nāsikā* or *kūḍu* forms in elevation. The superstructural members, namely the *grīvā, śikhara* and *stūpī*, are not shown, since the *prastara* reaches the ceiling of the *maṇḍapa.* The *maṇḍapa* façade has often an undefined *adhiṣṭhāna* and undifferentiated cornice, which is simply the projecting rock ledge. The simple corbels *(potikā)* are massive, the arms with a curved or angular profile, and the square pillars of the façade have their middle part chamferred into an octagonal section called the *kaṭṭu,* and the basal and upper parts are square in section, the *śadurams.* The rectangular front hall is often divided into an anterior and a posterior part, the *ardha-* and *mukha-maṇḍapas,* by an inner row of pillars and pilasters in alignment with those of the façade, or in their absence by a difference in the floor levels. These pillars with square and polygonal sections have been uniformly the type adopted for *maṇḍapa* pillars, earlier in Nagarjunakonda, and also later right up to the present time. Perhaps, it is because of the presence of such well-recognised *maṇḍapa*

pillars on the façade that these cave temples came to be designated "*maṇḍapas*" in the later inscriptions and by the populace. There is no other sculpture except for the *dvārapālas* and the shrine does not contain any rock-cut bas-relief of the principal deity, or a rock-cut Liṅga in Śiva temples. There is also no water outlet *(vārimārga)* to lead the water from the shrine floor to the outside. The shrine cell, when at the rear, is in alignment with the intercolumnar space between the two façade pillars. If the number of shrine cells at the distal end of the *maṇḍapa* is more than one — three as in Mandagapattu, or five as in the others — the number of the façade pillars between the extreme pilasters is correspondingly increased but the intercolumniation is always equal.

Narasiṁhavarman I Māmalla (*c.* A.D. 630-668), son and successor of Mahendra, was a great warrior and patron of the new mode of rock architecture and sculpture. He defeated the invincible Cāḷukya Pulakeśin II and occupied his capital Badami for a long period, though he lost the southern part of his inherited empire, the Coḷamaṇḍalam, to the Pāṇḍyas his southern rivals. He continued to excavate cave temples of the Mahendra style, for example, the Orukal *maṇḍapam* at Tirukkalukkunram (Chingleput District) and Kōṭikal *maṇḍapam* at Mahabalipuram, and initiated a new series of more ornate cave temples in Mahabalipuram itself. He also carved out monolithic *vimānas* (the so-called *rathas*), which as mentioned above are the earliest extant models of *vimāna* architecture in the south, and created great rock sculpture such as the celebrated Arjuna's penance.

The Māmalla style cave temples initiated by Narasiṁha were mostly completed in stages by his immediate successors. The most outstanding advancement noted in the Māmalla style cave temples is a fuller representation of the frontal and interior aspects of a contemporary structural *maṇḍapa* with a shrine cell or cells in the rear. The *maṇḍapa*-façade in the Māmalla style is fully furnished with a *kapota* (roll-cornice) flexed in advance of the *uttara* (beam), decorated by *nāsikās* (*kuḍus, caitya* dormers) at intervals corresponding to the columniation below and carrying a *hāra* (string) of miniature *vimāna* models, mostly composed of *śālās* with a rectangular plan and barrel-vaulted roof, interconnected by short lengths of cloisters — the *hārāntara*. The taller and more slender pillars and extreme pilasters *in antis* must have resembled their wooden prototypes, having all the capital components of the "order." The pillar or pilaster bases, are often shaped into squatting lions or leonine *vyālas*. The *maṇḍapa* is often divided into front and rear halls by an inner row of pillars and pilasters *in antis*. The distal shrine fronts are often more projected into the *maṇḍapa* and are more

complete with *adhiṣṭhāna, pāda* and *prastara*. The *dvāra* or shrine entrance is flanked by *dvārapāla* niches between the pilasters constituting the *pādas*. The well-formed *prastara* over the shrine entrances have projected flexed *kapota* and well-marked *kūḍus*. The jambs and lintels are simple. The shrine cells are always in the rear of the rectangular *maṇḍapa*, one, three or five in number. These cave temples also show a marked advance in plastic decoration in the form of bold sculptures of Gods and Goddesses and large panel compositions depicting Pauranic episodes. The shrine cell of Māmalla's time does not have any rock-cut bas-relief representation of the main deity or rock-cut Liṅga, but there are evidences that the main deity was represented on the back wall by a mural painting, stucco relief, or an embedded carved wooden plaque. The Koneri *maṇḍapam* and the Mahiṣāsuramardinī *maṇḍapam* indicate the transitional stages of the *maṇḍapa* columniation from the Mahendra-type square *maṇḍapa* pillars to pillars with capitals of the order having the *mālāsthāna* (belt of garland) with *padmabhāṇḍa* (lotus bond), marking the top of the shaft and over it the *laśuna, tāḍi* (dish molding), *kumbha* (pot), *pāli* or *padma* (capital) and *phalaka* (plank) with *vīrakaṇṭha* (necking), carrying the *potikā* (corbel) and again the transition from such pillars of the order with circular or fluted *(śuṇḍu bheda)* shafts to those where the basal part is shaped into a lion or *vyāla* form.

These advances were perhaps the result of the cumulative experience in the technique of cutting into and carving of hard live rock acquired in the few decades. As a result bolder experiments such as cutting out entire *vimāna* forms, popularly called *rathas*, from the living rock were initiated. These are verily architectural models in the form of large sculptures in the rather intractable granite-gneiss of Mahabalipuram to which place alone these temples are confined. As faithful models, these monoliths show not only the total external aspect of a tiered *vimāna* with its *mukhamaṇḍapa* (porch) but also to a large extent the interior arrangement. They were all carved out from the top to the bottom and subsequently scooped into, a reversal of the process of building up of structural temples from the base or *upāna* (the lowermost molding of the *adhiṣṭhāna*) to the top *stūpī*, the finial. But, as according to the traditional ritual the installation of the *stūpī* should coincide with the installation of the principal deity in the sanctum, and the consecration of the completed temple as a whole, the work on these monoliths started from the member immediately below, namely, the *śikhara* and a separately-carved *stūpī* was to be set in position later on.

Mahendravarman II (*c.* 668-72), son of Māmalla, seems to have car-

ried on the work initiated by his father on the cave temples and *rathas* during his brief reign.

But Parameśvaravarman I (*c.* 672-700) son of Mahendra II, who had a longer reign, has more to his credit. For instance, the so-called Gaṇeśa Ratha, a finished monument, and the three unfinished ones, viz. the two Piḍāri and the Valaiyaṅkuṭṭai Rathas on the western side of the main hill are due to him (Pls. 108, 109, 107). Besides he continued work left incomplete by his predecessors. Towards the later part of his reign the prejudice against unconventional stone had perhaps died out sufficiently for him to introduce stone representations of the principal deity in worship, which were carved as bas-relief on the back wall of the sanctum, particularly the Somāskanda form in the Śiva shrines as seen in the Mahiṣamardinī *maṇḍapa* and the top *tala* or storey of the Dharmarāja Ratha (which may perhaps be nearer to the time of his son Rājasiṁha); and the Durgā in the shrine of Draupadī Ratha.

It was also in the time of Parameśvaravarman I that attempts to construct structural *vimānas* with granitic stone as building material appear to have been made in the Toṇḍaimaṇḍalam. In a few extant examples is to be found for the first time the use of entire granite slabs cleaved by the traditional firing process (known from megalithic times), set up orthostatically with a capstone in dolmenoid fashion, or laid flat in coursed work one above another and shaped to correspond to the moldings, like the *upāna, kumuda, paṭṭikā* and *prati* of the *adhiṣṭhāna* and set up in short height on edge wherever vertical courses such as *kaṇṭha* came in.

The central shrine of the Vedagirīśvara temple on the summit of the hill at Tirukkalukkunram (Chingleput District) is essentially of huge vertical slabs set up to form the side walls of the *garbhagṛha* with an entrance on one side covered over by a roof slab on top. The inner faces of the wall slabs have on them the Somāskanda relief characteristic of Parameśvaravarman I in the rear, and reliefs of Daksiṇāmūrti, Nandi, Caṇḍikeśvara etc., on the other walls. Externally perhaps the *adhiṣṭhāna* moldings, the pilasters and *prastara* moldings, as also the superstructure of the *talas* above were composed originally of brick and stucco. But at present the dolmenoid nucleus is encased by molded stone work of the later Coḷa times.

The ruined apsidal Śiva temple at Kuram (Chingleput District) is an example of the second type, marking an advance in the employment of stone slabs for a construction (Pl. 126). Here granite slabs of different thicknesses, varying from four to nine inches, are used in courses of the *adhiṣṭhāna*. The lowermost molding or *upāna* is formed of flat slabs laid

over a brick platform and the next vertical recessed *jagatī*-molding is a line of narrow slabs set on edge. The projected *kumuda* again, which is of the *tripaṭṭa* variety, has its three faces brought out by three superposed courses of flat slabs, the central slab with a straight vertical face and the upper and lower ones with front faces cut back to a bevel to simulate the three segments of an octagon. The recessed *kaṇṭha* is again a line of short vertical slabs; the projected *paṭṭikā*, or topmost member of the socle forming the floor of the sanctum, is of wide thick slabs placed flat. The walls above are composed of an alternating series of vertical and horizontal slabs, the vertical slabs placed longitudinal and transverse, the box-like cavities so formed being filled up with brick-work so as to ensure both the required mass, width and bonding. The superstructure of the apse was of brick and stucco, supported perhaps by struts from the inside as in the earlier apsidal brick temples extant at Ter and Chezarla. The contemporary Kuram copper plates themselves mention the land acquired for a brick-kiln for burning bricks to be used in the construction of this temple, which it calls Vidyā-vinīta-Pallaveśvara. While the top, and much of the wall portion of the shrine and its *mukhamaṇḍapa* have collapsed, these are still extant in another temple of the same type at Kalambakkam in the same district. These structural experiments of Parameśvara proved to be unsatisfactory for more ambitious structures as we find that such types of construction are not continued or improved upon in the succeeding period.

Narasiṁhavarman II, Rājasiṁha (*c.* A.D. 700-728), son of Parameśvara I, succeeded his father, and it was he who achieved notable progress in the construction of stone temples using cut stone blocks and in laying down and defining certain fundamental norms for the future temple architecture of the south. In this task he drew much from the monolithic models of his predecessors and also developed them. It may be said that the later Pallava phase, essentially a structural one, started from his time. In his structural monuments of different types he too had experimented upon different kinds of stones and tried to exploit their possibilities for quarrying and construction, and suitability and facility for molding and carving. For example, the Shore Temple complex at Mahabalipuram (Pl. 115) is mainly of a coarse variety of dark stone with a basal flooring of granite slabs, *stūpīs* of dark polished basalt and some of the inner supporting pillars of the *mukhamaṇḍapa* (particularly the two immediately in front of the *ardhamaṇḍapa* of the smaller west-facing *vimāna* called the Rajasiṁheśvara) of marble — like Palnad limestone — favourite material of the

preceding Ikṣvākus of Palnad, and Vijayapurī. This can be seen from their stumps *in situ*. The Olakkaneśvara temple on top of the hill above the Mahiṣamardinī cave in Mahabalipuram is of whitish or grey granite, a fine-grained hard stone, comparatively easier to quarry, shape and carve — a material that came to be most commonly used later in the temples of the South. The Mukundanāyanār temple in the same place is of a darker variety of granite gneiss resembling the local stones. The Tālagirīśvara temple on Panamalai (South Arcot District) is of a harder variety of reddish granite (Pl. 119). Even among these four one would not fail to notice that while the Shore Temple *vimāna* and the Olakkaneśvara, of comparatively more tractable material even among hard stones, contain a good amount of figure sculpture in addition to moldings in the same stone, the Tālagirīśvara and Mukundanāyanār of less tractable material lack sculpture, though the molding work had been achieved to satisfaction. But in the *élan* of creation of more structural temples in his own capital of Kanchipuram, and urged, perhaps, by a desire to keep pace with his Cāḷukya rivals who were fast building structural stone temples out of the very tractable sandstone, Rājasiṁha was evidently forced to choose softer stones because of their greater tractability that saved time and labour. In this, like the Mauryas under Asoka who after their few excavations into the hard rocks of Barabar and other places soon turned to the Chunar sandstones for their other monumental erections, Rājasiṁha had perforce to choose whatever quality of sandstone that was available in his own kingdom and make use of it in his other metropolitan constructions as in his *magnum opus* — The Rājasiṁheśvara, the main *vimāna* of the Kailāsanātha complex, the Airāvateśvara, the Piravātaneśvara, the Iravātaneśvara, the Tripurāntaka and the Vāliśvara, all at Kanchi. The sandstone employed is of a pale, coarse, friable nature of a quality inferior to the material used by the Cāḷukyas. Even in the construction of these temples, the desire for the incorporation of the novel material — granite or gneiss — that had been characterising Pallava monuments so far, at least as slabs in courses where such flat slabs could be used with advantage and for strength, is clearly noticeable. Where other kinds of stones were used for the structure in general, Rājasiṁha introduced granite (or gneiss or charnockite) as the flooring below the *upāna* (plinth) as at the Shore Temple or in the *upāna* and in the *paṭṭikā* (band) — the lowermost and topmost moldings of the *adhiṣṭhāna* — places where slabs could with advantage be laid as a bedding in the former course and as the flooring of the sanctum or top of the platform which the latter course represents.

This is found to be the case with all his sandstone temples at Kanchi and this practice is found to be continued in the sandstone temples of his successors for one or two generations.

In passing, it may be said that besides structural temples, Rājasiṁha also excavated a few rock-cut monuments at Mahabalipuram, of which the Atiraṇacaṇḍa *maṇḍapa,* named after a title of his occurring in the foundation inscription there, is an example of the Mahendra style cave temple. The so-called Tiger cave, Yāḷi *maṇḍapa* as it is locally and more appropriately called, is a sort of ceremonial pavilion decorated by an arch of bold *vyāla* heads over its façade. There are similar carved rocks of various sizes associated with Durgā sculptures on their sides or lions representing the goddess on the shore line near the Shore Temple. These excavations would mark the epilogue to the rock-architecture phase of the Pallavas in their own country and the ushering in of the rational and meaningful later Pallava era or the structural vogue by Rājasiṁha himself.

Mahendravarman III, son of Rājasiṁha, predeceased his illustrious father, but was responsible for the construction of the *śālā* type *vimāna* — the Mahendravarmeśvara — in front of his father's Rājasiṁheśvara in the Kailāsanātha complex taking the place of the front *gopura.* The cloister stringing together a number of *vimānas* inside the *prākāra* (wall) — all *kūṭa vimānas* except for two *śālā vimānas* — oriented on the north-south axial line of the main Rājasiṁheśvara, a small rear *gopura* on the west as also the inscriptions in florid and ordinary script eulogising his father are to be attributed to Mahendra III.

Parameśvaravarman II (*c.* A.D. 728-731), whose relationship to Rājasiṁha is not clearly known, had a brief rule when the main line of succession had ended because of Mahendravarman III predeceasing his father. The Vīraṭṭāneśvara temple at Tiruvadigal (South Arcot District) with an inscription of his third regnal year, was perhaps completed in his time.

Nandivarman II, Pallavamalla (*c.* A.D. 732-796), was elected while quite young to the Pallava throne after the dynastic revolution, and had a long reign. The Vaikuṇṭhaperumāl temple at Kanchipuram, a large and important sandstone structure called Parameśvara Viṇṇagaram after his pre-coronation name, was built by him. This has also the merit of being the only instance of a Pallava stone temple recognised and eulogised by a contemporary hymnist-saint. The Vaiṣṇava saint Tirumangai Āḻvār has sung of this temple with admiration and fervour. The Mukteśvara, also called Dharma Mahādevī Īśvaram, after the name of his queen in an inscription of Nandi's time in the temple, and the Mātaṅgeśvara, also

sandstone structures, both incorporating granite slabs in their *upāna* and *paṭṭikā* as in the Vaikuṇṭhaperumāḷ and the earlier Rājasiṁha temples, are also notable temples of Nandivarman's time. The Kailāsanātha at Tiruppattur (Tiruchchirapalli District) built of sandstone is a large all-stone *vimāna* in that material (Pl. 122). In the time of Nandivarman, Pallava suzerainty, which had in the times after Mahendravarman I shrunk almost to their home province of Toṇḍaimaṇḍalam, was again expanded up to south Vellar, the traditional border which marked off the Coḷamaṇḍalam from the Pāṇḍimaṇḍalam. As such, the temple at Tiruppattur would perhaps mark one of the southernmost provincial Pallava examples in sandstone.

Dantivarman (*c.* A.D. 796-846), Pallavamalla's son, succeeded to his father's expanded domains. The Sundaravaradaperumāḷ temple at Uttiramerur (Chingleput District; Pl. 123), the Kailāsanātha (Pl. 125) and Vaikuṇṭhaperumāḷ temples in the same place, are examples of his temples with stone *adhiṣṭhāna* and brick superstructure, a mode to which the later Pallavas also resorted, as will be seen in the sequel.

Nandivarman III (*c.* A.D. 846-859) succeeded to the empire that extended to the southern borders of the Coḷamaṇḍalam. The Viṣṇu temple at Kiliyanur (South Arcot District) and the Śiva temple at Sumangali (North Arcot District) are typical Pallava temples of his time.

Danti's closing years in the second half of the ninth century would almost mark the finale of a distinct architectural style of the Pallavas, for in the reigns of the last Pallava kings, Nṛpatuṅgavarman, Aparājitavarman, Kampavarman and Nandivarman IV (Tellaru Nandi), Pallava power became nominal, badly shaken by internecine wars and weakened by major and frequent engagements with the Pāṇḍyas, who were extending their influence much to the north of the Kaveri, and also by the resurgence of the hitherto dormant Coḷas to power in their homeland. Among the temples of this period mention may be made of the Śiva temple at Nenmeli (Chittoor District) and the Vīraṭṭāneśvara temple at Tiruttani (Chingleput District; Pl. 124).

The vogue of total construction in the poor quality sandstone for the smaller temples, for example the Sumangali temple, and the *miśra* mode of using granite for the *adhiṣṭhāna* and brick for the superstructure, starting with Dantivarman in the last decade of the eighth century, continued. One of the few exceptional cases was the Vīraṭṭāneśvara at Tiruttani, set up by Nambi Appi in the reign of Aparājitavarman, which as its inscription says, was built wholly of black stone (granite), which from

some of its characters would reveal the influence of the peripheral styles of the Bāṇa-Vaiḍumba nexus.

In the south, it was in the country of the Pāṇḍyas and the contemporary Muttaraiyars and Irukkuveḷs that the rock-cut architectural mode continued long after its practical cessation in (the) Toṇḍaimaṇḍalam after Rājasiṁha Pallava and till the close of the ninth century. The Pāṇḍyas also carved out a large and splendid, though unfortunately incomplete, monolithic *vimāna*, the Veṭṭuvānkoil at Kalugumalai (Tirunelveli District), in the local hard granite rock. With the Veṭṭuvānkoil monolith, begun about A.D. 800, there grew a vigorous activity in the construction of smaller and larger all-stone structural *vimānas* of the *kaṟṟaḷi* type in hard granite under the Pāṇḍyas in the far south. This was soon caught up with, in the first quarter of the ninth century, by the Irukkuveḷs of Kodumbalur, and before the middle of the same century, by the Muttaraiyars of Sendalai-Niyamam, becoming characterised by their individual regional idioms. This tradition, along with that following the northern Pallava norms formed the matrix of the larger all-stone structural Coḷa temples and culminated in those of Tunjavur and Gangaikondacholapuram of Rājarāja Coḷa I and Rājendra Coḷa I of the tenth — eleventh centuries. This spurt of all-stone work in hard material, as in the earlier case of the Pallavas, soon slowed down and gave place to *saṁkīṇa vimānas* with the body and plinth in stone, and the superstructure in brick, as we see from the times of Rājendra II and Kulottuṅga III, in their celebrated temples at Darasuram and Tribhuvanam.

Thus the hard-stone tradition started by the Pallavas had in its real constructional phase shifted its venue to the south by about the commencement of the ninth century. The technique of quarrying hard rocks, sizing and shaping the blocks, beams and pillars and carving and molding them for their architectural components, as also making sculptures in the same material, had been perfected and the required know-how developed in the context of continued rock-excavation work and added experience in these regions where granites and gneiss were native. A similar development is to be noticed in the western periphery of the Toṇḍaimaṇḍalam — the Gaṅga, Bāna, Vaidumba area. The raw quarrying of hard stones should have employed the same techniques as are current among the stone masons of the South even in present times. These consist of the jumping of a series of square holes along the line of desired cleavage, insertion of flat-tipped tight fitting iron wedges into them and simultaneously striking them down with heavy hammers wielded by a number of persons,

the so-called *kal-uli-maṅgans*. The sudden percussion ensures a straight and deep break. This process is called *aravaḍittal* by the Tamil stone masons. The "firing" method on the other hand would yield only slabs, fit only for pavement and roofing and not strong enough to be used for bearing members like pillars or beams or as supports or for spanning.

III. THE PALLAVA TEMPLE (EARLY PHASE: MONOLITHIC *RATHAS*)

The earliest representations of the characteristic *vimāna* of the southern temple are, as has been stated already, the *rathas* of Mahabalipuram. *Vimāna* signifies here the entire edifice that contains the sanctum or *garbhagṛha*, with its basement and superstructure, that is, from the *upāna*, the lowermost member of the *adhiṣṭhāna* to the *stūpī* or finial, the ultimate *usṇīṣa* of the superstructure as defined by the earlier texts and all the inscriptions up to the fifteenth century, where such expressions as *upānādi stūpī paryantaṁ*, and *vimānatrayaṁ* (for the triple *vimānas* of Mūvarkovil) are common.

Of the five so-called *rathas* to the south of the main hill four are in a line carved out of a single whale-backed rock and the fifth out of a smaller rock adjoining the hill on the west. The Gaṇeśa Ratha is likewise carved out of an *in situ* rock on the east towards the northern end of the main hill, while three more are carved out of large free standing boulders perched over the low rocks on the western side of the main hill. The sectioning of the whale-backed north-south hill, with greater height and basal width towards the south end, into three segments and the carving of the four different types of monilithic *vimānas* out of the three segments, bespeak of a predetermined layout and a deliberate choice of design of the individual types and their relative location in terms of the basal width and total height of the material available. These four are: the square Draupadī and Arjuna Rathas, standing on a common *upapīṭha* (platform), out of the northern segment; the linear Bhīma Ratha out of the central longer segment that had an almost horizontal crest line; the taller and square Dharmarāja Ratha out of the more massive and high southern segment; and the apsidal Nakula-Sahadeva Ratha out of the separate globoid rock to the west of the first Rathas. The single Gaṇeśa Ratha to the north of the main hill of the village and the two Piḍāri Rathas — north and south — and the Valaiyaṅkuṭṭai Ratha on the eastern side of the hill are slightly later, though within the same century.

In these nine temples or full size monolithic *vimāna* models and in the nine bas-relief representations in miniature found on the faces of the gable ends of the *śikharas* of the Nakula-Sahadeva, Bhīma and Gaṇeśa Rathas, on either flank of the façade of the Rāmānuja *maṇḍapa*, and in the Arjuna's Penance bas-relief composition, one can discern the intention of the builders of laying down the matrix of *vimāna* forms, their aspects of formal architecture, composition and modulation of the various parts or the *aṅgas*, and embellishment with sculpture and motif as developed between A.D. 600 and 700. Thus they would constitute the first link in the chain of southern *vimānas* to come. Their brief analysis and classification according to type, plan and rise in terms of the elaboration of storeys or *talas* — *talacchanda* — the appearance of new elements or atrophy of older ones and other aspects would be worth examination as a prelude to the later structural phase of the Pallavas.

The temples exemplify the unitary type with the tiered *vimāna* and flat-roofed *mukhamaṇḍapa* that form the nucleus of temple complexes, and the bas-relief representations indicate only the front elevation of *vimānas* — minus the *mukhanaṇḍapa*.

The three bas-relief miniatures, one depicting a Viṣṇu shrine in the Arjuna's Penance panel of Māmalla's time and two more on the façade of the Rāmājuna *maṇḍapa*, a Māmalla style cave temple of the time of Parameśvaravarman I, represent simple *ektala vimānas, samacaturaśra* (square) in plan from base to finial, of the *kūṭa* type having a domical *śikhara* with a single finial on the converging apex and provided with all six *aṅgas*, namely the *adhiṣṭhāna, pāda* or *bhitti* (columns or walls according as the superstructure is supported by pillars or on walls), *prastaragrīvā* (neck or clerestory), *śikhara* (head or the ultimate and real roof) and *stūpī*. These with their square or four-sided plan from base to top would also exemplify the typical Nāgara form of the ternary classification of the south Indian *āgama* and *śilpa* canons that would appear to have been codified in the succeeding centuries.

The three contiguous *vimāna* fronts of the Trimūrti cave temple, of the time of Parameśvara I, likewise depict full-scale elevations up to the top elements of the *āditala* or ground floor, which in Indian architecture is called the first storey or *tala*. In the absence of the second *tala* and further superstructural elements their classification as Nāgara, Drāviḍa or Vesara becomes impossible, since with the carving of the elements of the *āditala* the crest of the rock had been reached.

The Draupadī Ratha (Pl. 106 right) Nāgara again, illustrates the type

of a simple hut-like *kūṭāgāra vimāna* with only four of the six normal *aṅgas* of an *alpa vimāna,* the *aṅgas* that are lacking being the *prastara* over the *bhitti* and the *grīvā* below the *śikhara.* The *stūpī,* made separately for insertion in position after completion, is to be found now on the platform in front of the *vimāna.* Here the four-sided or four-ribbed domical roof or *śikhara* rests directly on the walls.

This, in comparison with the *vimāna* with six *aṅgas,* suggests the functional need that must have actuated the introduction of the *prastara* as the terrace element of the cella and the *grīvā* of smaller dimensions over it to serve as a clerestory to raise up the *śikhara* or roof and with it to jointly provide for dormer windows or *nāsikās* to let in air and light inside the cella, which would otherwise have but a sole opening from the front entrance below. The *prastara,* representing the flat terrace element, is essentially made up of a system of criss-cross joists, the *lūpās* and *jayantīs* resting on the main beam all around, and scarf-jointed at the intersection of the longitudinal and transverse members to provide an even top to be closed by planking. The free-cut ends of these joists projecting beyond their rests on the main beams are carved into *bhūta* or *haṁsa* forms in the original timber work that later, as a result of translation into stone, lose function and become conventionalised into the freizes — the *bhūtamālā* or *haṁsamālā (bhūtavari* or *haṁsavari* of the Tamil *sthapatis).* The tie beams, *āliṅgapaṭṭīs,* scarfing these joists over the main beams project at the corners beyond with their ends carved into projecting *makara* faces.

The curved cornice or *kapota* projected over these timber ends affording protection to them as an eavesboard *(kapotapālikā)* is usually of metal sheet nailed over a rib-work frame and is held in position by a blocking course; the frame again is a system of peripheral timbers, scarfed over longitudinal and transverse joists, the end faces of which are likewise carved into *vyālas* to produce the *vyālamālā.* The bow-rafters of the *śikhara,* or roof proper — the principal ones at the corners and the intermediate ones — are made to rest on a wall plate and beam over the main walls, as in the case of Draupadi Ratha or over the clerestory or *grīvī* wall in the other cases, with a section of the lower ends projecting beyond and forming the bases of the eaves or *avalambana* intended to protect the timber work below from weathering. On top, these rafters converge to meet at the roof plate or *pidhānaphalaka,* which is closed over by the *stūpī* or finial. At various levels between the top and bottom ends of these curved rafters are run tie rods or *valayas* through drilled holes, the whole forming the basket-like framework over which either a thatch or roof *(ācchādana)* of copper plate, or planks,

is nailed, the latter often protected by rows of imbricating, small, triangular tiles with their hooked portion projecting out on the top surface of the *śikhara*. The segments of the roof or corners of the ribbed roof in particular are closed, and secured by embossed braceplates, the *koṇapaṭṭa*. The exposed timber of the *prastara* or terrace part is likewise protected by a projected cornice or eaves, the *kapota* supported on ribs *(koḍuṅgai)* projecting from the tie beams pressed down posteriorly into position by a blocking course based again on crossed timber work, the carved ends of which constitute the *vyālamālā* of later convention. The corners of the *kapota* are also braced together by *koṇapaṭṭas*.

The *dvitala* or two-storeyed variety of the *samacaturaśra* Nāgara form is well represented by the Valaiyaṅkuṭṭai Ratha (Pl. 107) and the northern Piḍāri Ratha (Pl. 109), both post-Māmalla in point of time, square in plan in all the *aṅgas* with a flat-topped *mukhamaṇḍapa*. The *prastara* of the *āditala* carries over it a *hāra* of four *kūṭas* each at one corner or *vidik*, hence called *karṇakūṭas*, and four *śālās* or *koṣṭhas*, one each on the cardinal side or *dik*, hence *bhadraśālās*, with intervening cloister or *hārāntara* lengths of lesser height. Each segment of the *hārāntara* bears outwardly a pair of *nāsikās* or dormer projections, the *kṣudra nāsikā*, emphasising its essential cloister nature, the whole *hāra* appliqué on the *bhitti* or wall of the central *harmya* — symbolic representation of the second storey. Such an appliqué *hāra* would make the *vimāna* belong to the *arpita* variety, as opposed to the *anarpita* variety where the *āditala* is *sāndhāra* with a double wall enclosing a circumambulatory and where the *hāra* over the *prastara* on the outer wall has an open interspace between it and the walls of the *harmya* of the second *tala*, called the *alinda*. As such, these single walled structures would be *nirandhāra*. The *hāra* extends forward over the *prastara* of the *mukhamaṇḍapa*, too, at a slightly lower level, a feature noted in the contemporary Cāḷukya *vimānas* also. The introduction of the second *tala* with its *prastara* below the *grīvā-śikhara-stūpī* complex on top, and above the *adhiṣṭhana, bhitti, prastara* parts of the *āditala* below, would then add two more to the six *aṅgas*, making the *vimānas aṣṭāṅga*. The *aṣṭāṅga vimāna* is found to be common among the majority of medium sized *vimānas* of subsequent times and would incidentally also conform to the *aṣṭāṅga* (eight-spanned) conception of the human body of which the *vimāna* is a conceptual analogue. The only difference noticed between these two *dvitala* or *aṣṭāṅga vimānas* is that while the Valaiyaṅkuṭṭai Ratha (Pl. 107) has a *hāra* of four *kūṭas* and four *śālās* over the *prastara* of the second *tala* also, encircling and applique on the *grīvā*, the northern Piḍāri Ratha (Pl. 109) has the second *tala* free of any *hāra*

element, a very significant point of departure indicating an instance of elimination of earlier characters, and marking a transition to *vimānas* without the *hāra* on the topmost *tala;* and thus making one wonder if this Ratha could be the early handiwork of Rājasiṁha himself. This feature alone would mark off this Ratha as the latest of the whole series.

The Arjuna (Pl. 106) and the southern Piḍāri Rathas (Pl. 108), the latter post-Māmalla again, are likewise *samacaturaśra dvitala vimānas* of the *aṣṭāṅga* class and *arpita* variety, both the *talas* having appliqué *hāra* of four *karṇakūṭas* and four *bhadraśālās* and double *nāsikās* in the *hārāntara* sections. The *mukhamaṇḍapa* carries a *hāra* too over its *prastara* in continuation of the *hāra* over the *āditala*. But here in both the cases, the grīvā and *śikhara* are octagonal on plan, which would make them Drāviḍa *vimānas* of the *miśra* variety in as much as the body parts are square, and the *grīvā* and *śikhara* above are polygonal.

The pure form of the southern Drāviḍa order is, however, represented in relief on the front gable face of the *grīvā* and *śikhara* of Māmalla's Nakula-Sahadeva Ratha. It exemplifies an *ekatala alpavimāna,* hexagonal in all its six *aṅgas,* from the *adhiṣṭhāna* to the *stūpī*.

The Bhīma Ratha of Māmalla's time (Pl. 110) is an example of the *āyatāśra* Nāgara *ekatala,* or *ṣaḍaṅga vimāna* of the *śālā* type with wagon-top roof or *śālā śikhara* carrying a row of *stūpīs* over its ridge. The Bhīma Ratha is peculiar in having in its *ekatala* make up, a *hāra* over the *prastara* of the *maṇḍapa* surrounding the *āditala* that is carried on the cardinally placed façade pillars and pilasters and the cantoning corner walls of the narrow *maṇḍapa* that surrounds the rectangular cella with its single opening on the western side. Thus on top, the *hāra* leaves an *alinda*-like space between it and the rather high *grīvā* wall which is but an upward continuation of the sanctum wall. The *grīvā* and the *śikhara* show five boldly projected *nāsikās* from each linear face on the east and west which constitute typical examples of the different orders of *nāsikās* as codified in later texts, the largest central one and the medium sized extreme ones on each side of the *śikhara* having a *prastara* component over the short paired pilasters or *nakula pādas* projected from the *grīvā* face and supporting the *jhaṣa* or *toraṇa mukhapaṭṭī* projected from the curved flank of the *śikhara,* the *kapota* of the *prastara* component of the *nāsikā* coming in a line with and projected from the brim or *oṣṭha* (lip) of the *avalambana* part of the main *śikhara*. The two intermediate and smallest *nāsikās* are of the lower order in not having such a *prastara* component between the *nakula pāda* tops and the *toraṇa* or *jhaṣa* arch.

The Gaṇeśa Ratha of Parameśvara's times (Pl. 111), called Atyantakāma Pallaveśvaram after the title of the king in its foundation inscription, is again an *āyatāśra* form of the *dvitala* or *aṣṭāṅga vimāna*. It is rectangular with *śālā śikhara* and a row of integral *stūpīs*, cut *in situ* over the ridge in contrast with all the other cases of *rathas*, perhaps cut as the last piece of work from the rock material left intentionally uncut from the beginning while the work progressed downward from above. The two *mukhapaṭṭī toraṇas* framing the arched gable ends of the *śālā śikhara* carry finials depicting a head with trident horns—the representation of Śūladeva or Astradeva appropriate to Śiva temples. This *ratha* lacks the circumambulatory corridor found in the Bhīma Ratha, but has only a linear narrow *mukhamaṇḍapa*, with cantoning bits of walls around the corner, leaving a central façade opening with two pillars and pilasters *in antis*. The *vimāna* as such is *nirandhāra*, and *arpita* with appliqué *hāra* on both the *talas*, the *mukhamaṇḍapa* too carrying a *hāra* over its *prastara*. The linear or lateral faces of the *grīvā-śikhara* elevation has three projected *nāsikā* dormers on each side, the central of greater magnitude with the *prastara* component and the two lateral of lesser magnitude without the *prastara* element.

The apsidal, *dvayāśra* or *cāpa* form, two-sided and closed by an apse-end at the rear, is represented by the Nakula-Sahadeva Ratha (Pl. 106 left) commenced in Māmalla's time. It is a *dvitala, aṣṭāṅga vimāna*, again with *arpita hāras* on both the *tala prastaras*, and hence *nirandhāra*. It would connote the pure Vesara form because of its apsidal plan from base to *śikhara* with a longitudinal series of *stūpīs* on the straight ridge of the *śikhara* and with a large gable front, in *nāsikā* form, constituted by the front cantoning pilasters of the *grīvā* and the front *toraṇa* arch or *mukhapaṭṭī* of the *śikhara*. Owing to its rear aspect resembling the back of an elephant, as demonstrated on the spot by the adjacent large sculpture of a standing elephant facing in the same direction — south — such a *vimāna* is also called *hasti-pṛṣṭha* or *gajapṛṣṭha*, a form quite common to the earlier Buddhist *caityas*, primarily enshrining the circular *stūpa* representation in their apse-ends and one that could be easily adopted later for Śiva temples enshrining a Liṅga with circular *pīṭha* as happened later in Toṇḍaimaṇḍalam, but rarely found extending beyond to the south or west. In this *ratha*, too, provided with a short *mukhamaṇḍapa* of equal width in front of the *vimāna*, the *hāra* is extended over its *prastara*. The *hāra* of the *āditala* is composed of two *karṇakuṭas* at both front ends, with an intervening *bhadraśālā* and a row of *śālās* extending along both the sides and round the apse, an odd *śālā*

coming right over the crest of the curve at the rear. The *hāra* over the second *tala,* however, has in its front line, between the two *karṇakūṭas,* two miniature apsidal *vimāna* elements, the *nīḍa* or *pañjara* in place of the central *bhadraśālā* of the *tala* below, of the same magnitude as the *kūṭa* and *śālās* of the *hāra.* This incorporation of the third major element, namely the *nīḍa* or *pañjara,* which becomes a fixed feature of the *vimāna hāras* of subsequent periods constituted invariably by the triple elements *kūṭa, koṣṭha* and *pañjara,* marks another landmark in architectural history instanced by a new addition that came to stay. This feature would also incidentally indicate that the carving of this Ratha was taken up late in the time of Māmalla and brought to whatever stage of completion it had come to in the time of Parameśvara I.

The *ekatala* apsidal form is not represented in the early Pallava series. The pure type of *ekatala,* Vesara, *kūṭa vimāna* of *vṛtta* or circular plan is another type that has not been represented in the *rathas* or bas-reliefs. But the two miniature models of rather tall and column-like *vimānas* carved inside either end arch of the *śālā śikhara* of the Gaṇeśa Ratha would represent *dvitala vimānas* of this type.

But the *miśra* variety of *ekatala* Vesara, the *kūṭa vimāna* is, however, represented by the miniature relief models found inside either end arch of the *śālā śikhara* of the Bhima Ratha. Each of these has a square body *(adhiṣṭhāna, bhitti* and *prastara)* surmounted by circular *grīvā* and *śikhara* and crowned by a similar *stupī.*

The Dharmarāja Ratha (Pl. 112) illustrates a *tritala vimāna* of the *sāndhāra* and hence *anarpita* type. The three superposed *talas* are functional instead of the cella of the *āditala* alone containing the principal object of worship, and the upper *talas* being non-functional and symbolic as in the other cases discussed. It is *samacaturaśra* upto the *prastara* of the third *tala,* but *aṣṭāśra* in its *grīvā* and *śikhara,* which could make it a Drāviḍa *vimāna* of the *miśra* variety. The *hāras* of the three *talas,* following the *anarpita* or non-appliqué mode, have an *alinda* behind them separating them from the second and third *tala harmyas* and the octagonal *grīvā,* respectively, at the above three levels. The *āditala* is surrounded by a *bāhya bhitti* cantoning only the four corners, the intervals between them on each cardinal side having a façade of two pillars and two pilasters *in antis,* thus forming a partially closed outer circumambulatory. In front, on the western side, is a small *mukhamaṇḍapa,* its *prastara* carrying a *hāra* of *karṇakūṭas* and *śālās,* with two *nīdas* introduced in its composition, again as in the front line of the *hāra* of the second *tala* of the Nakula-Sahadeva Ratha. This fact would thus

place the carving out of the lower portions of this temple coeval with or a little posterior to the stages of completion of the Nakula-Sahadeva Ratha, though the carving of the Dharmaraja Ratha from above downward was commenced in the time of Māmalla himself, as a label bearing that name is inscribed on the balustrade, *pakṣa-śilā,* of the *sopāna* or steps on the east of the second *tala.* Another interesting feature to be found in this temple is the ingenious telescoping of the adjacent members of the corner of the *hāra* over the first *tala* to give a perspective appearance of a *kūṭa* from a corner view and two *śālās* meeting from a side view. This L-shaped *kūṭaśālā* motif perhaps heralded the *karṇaśālās* of the *gopura-prastaras* which appear later on with the elaboration of the *talacchanda* of the *gopuras.* Such a *kūṭaśālā* or *karṇaśālā* is to be found again in the same position in the *hāra* of the *mukhamaṇḍapa* of the structural Rājasiṁheśvara, of the Shore Temple complex at Mahabalipuram, thus indicating both proximity in point of time and continuity of this feature in this structural temple. Next to the Arjuna Ratha, this temple is the only one that contains a large amount of iconic sculpture. The label inscriptions on its *talas* are mostly titles of Māmalla and some, perhaps, of his son Mahendra. The third *tala* has been completed in all respects with a west-facing cella and a small projected open *mukhamaṇḍapa* with a *toraṇa* entrance. The real wall of the cella contains a bas-relief representation of Somāskanda. The inscription *atyantakāma pallaveśvara* on the front lintel and also on the eastern side would indicate this to be the handiwork of Parameśvara, perhaps in the closing years of his reign when he and his son Rājasiṁha were particularly devoted to this concept of Śiva.

The monolithic models and bas-reliefs in their diverse plans have laid the foundations of the ternary classification as Nāgara, Drāviḍa, and Vesara and defined the *lakṣaṇas,* therefore, that came to be codified later in the Śilpa and Āgama canons. In the individual temples can be discerned the intention to define, in permanent stone material, the *aṅgas,* their proportions, shapes and modulations as also the *talacchanda* of the *aṣṭāṅga* and *tritala* types. Within the century between A.D. 630 and 730, besides all the above, the *hāra* composition too shows development. On the façade of the Varāha *maṇḍapa* the *hāra* is a string of *śālās* alone, while on the Pancapāṇḍava *maṇḍapa* façade the linear series of *śālās* terminate at either end in a *kūṭa* — the *karṇakūṭa* — since the ends connote the corners. These transitional trends are also to be found among the *hāra* lengths, over the three *vimāna* façades of the Trimūrti cave temple. The inception of the *nīḍa* or *pañjara* as the third element of the *hāra* is notable, the element com-

ing in gradually, over the *mukhamaṇḍapa* façade as in the Dharmarāja Ratha, and over the second *tala* as in the Nakula-Sahadeva Ratha. The final fixation of the typical *hāra* elements and their relative disposition occurs towards the later part of the period particularly in respect of the *talac-chanda* of the *jāti-vimānas,* like the larger *vimāna* of the Shore Temple, the Rājasiṁheśvara of Kailāsanātha, Tripurāntakeśvara and Vaikuṇṭha-perumāḷ at Kanchi.

This also indicates the recognition of three basic plans as essential, namely, the square, the oblong and the apsidal, since it is these three alone that came to be utilised in the *hāra* composition, whatever be the general plan of the main *vimāna* the *hāra* adorns. The other most important development concerning the *hāra* is its total elimination on the topmost *tala,* as illustrated by the last of the series, the northern Piḍāri Ratha. The *hāra* continues as an essential element over the *prastara* of *maṇḍapas,* as can be seen in the case of Māmalla-type *layanas* and over the *mukhamaṇḍapas* or enclosing or *parikramāmaṇḍapas* of the *rathas,* a feature that is continued in the succeeding structural phase for a century and more, till the middle of the ninth century. When the Pāṇḍya-Muttaraiyar-Irukkuveḷ nexus of all-stone *kaṟṟaḷis* take the field the *mukhamaṇḍapa* is divested of its *prastara,* a feature that later becomes general. The Cāḷukya-Rāṣṭrakūṭa matrix and the styles that followed in that region, however, continue to have the *hāra* over the *maṇḍapa* till much later, right upto the Hoysaḷa and even the Vijayanagar period. The most significant feature that separates the Pallava-Pāṇḍya and the later regional styles of Tamil Nad and its periphery from the Cāḷukya and its derivative and allied styles, as also from the northern styles, is the non-adoption of the *śukanāsa* — the forward extension of the front *mahānāsikā* of the *grīvā* and *śikhara* of the main *vimāna* as also the *tala* components below, over the top of the *ardha-* or *mukha-maṇḍapa.*

IV. THE PALLAVA TEMPLE (LATER PHASE: STRUCTURAL TEMPLES)

With the advent of the structural phase under Rājasiṁha, and in the light of what had gone before, one sees definite trends in the crystallisation of not only the *vimāna* form in terms of its rise and components and the structural expedients for its design and stability as a construction, but also in the spatial elaboration of adjuncts, on the axial and peripheral planes, in front of and around the *vimāna* nucleus, to produce the essential of a temple-complex. These are the *maṇḍapas,* accessory shrines, cloister,

prākāra and *gopura* and their relative dispositions with reference to the *vimāna*. The crystallisation extends to the polarisation of particular icons in definite locations on the *vimāna*, though no such fixity is to be seen in respect of the location and content of the accessory or cloister shrines. The most significant contribution initiated by Rājasiṁha is the placement of the appropriate *lāñchana* or *vāhana* on the top corners of the uppermost *tala* around the *gṛhapiṇḍī*, for example, the *bhūta* or Nandi, in the case of Śiva temples, and lion etc., in the other temples as may be appropriate to the principal deity. This feature came to be codified in the texts as an essential one and we find it in all the later temples of Tamil Nad. In between them are, of course, transitional forms where the top *tala* has neither the *hāra*, nor the cognizant *lāñchana* or *vāhana*.

1. The Mukundanāyanār temple at Mahabalipuram in reddish hard stone is a plain, severe building, a *dvitala samacaturaśra vimāna* of the Drāviḍa order, with the parts above the octagonal *grīvā* lost, and with a *mukhamaṇḍapa* in front. This *vimāna* is almost a larger structural version of the northern Piḍārī Ratha. The shrine pilasters are devoid of *vyāla* or lion bases sitting or rampant, characteristic of Māmalla or Rājasiṁha, evidently because of the difficulty in carving such hard stone. The capital members, too, are rough and disproportionately shaped, perhaps for the same reason and their having been finished *in situ* on the construction. The first *tala* above carries a *hāra* of *kūṭas* and *sālās*, extending over the *mukhamaṇḍapa*. The top of the second *tala* like the northern Piḍārī Ratha had perhaps no *hāra*, nor the Nandi or *bhūta*. Whatever relief decoration there was externally, was of stucco applied to the plain walls. It has no *praṇāla* or waterspout on its northern side. The rear wall of the sanctum has a Somāskanda relief panel, the principal object of worship, the cylindrical polished Liṅga in the centre of the shrine floor being of later origin.

2. The Piravātaneśvara at Kanchi (Pl. 113), of coarse sandstone, is a small *dvitala samacaturaśra vimāna* of the Drāviḍa order, with cantoning and intermediate pilasters or *bhittipādas*, based on rearing *vyālas*, characteristic of Rājasiṁha pillars. The first *tala* carries a *hāra* of four *karṇakūṭas* and four *bhadraśālās*. The second *tala* is devoid of both the *hāra* or the *bhūtas* or Nandis at the corners. The *adhiṣṭhāna* is raised over an *upapīṭha* with pilaster decorations and top granite slab and consists of the *upāna*, *jagatī*, *tripaṭṭa kumuda*, *kaṇṭha* and *paṭṭikā* which again is of granite slabs. Curiously, the *kaṇṭha* is projected forward at intervals below the wall pilasters in the form of upturned brackets, on the tops of which are lapped the *paṭṭikā* course, a true imitation of the basal wooden support for the broad based

and projected pillar bases. The timbers of the rafter foundation laid criss-cross show their schematic ends in the *adhiṣṭhāna,* a wooden feature rarely depicted in other temples of Rājasiṁha. The shrine walls have *devakoṣṭhas* framed by *bhitti-* or *stambhatoraṇas,* as also the two side walls of the *ardhamaṇḍapa,* externally. While the southern *devakoṣṭha* of the west-facing *vimāna* contains the Dakṣiṇāmūrti form, and the northern *devakoṣṭha* of the *ardhamaṇḍapa,* the Durgā form, which become their fixed locations in the sequel, the other *devakoṣṭhas* of the *vimāna* contain forms of Śiva with Brahmā and Viṣṇu attendant on him, except the southern *devakoṣṭha* of the *ardhamaṇḍapa* which has Gajalakṣmī in place of Gaṇeśa that comes to have a fixed place here later in the century. The sanctum rear wall has a bas-relief of Somāskanda.

3. The Airāvateśvara at Kanchi (Pl. 114), also of sandstone, has lost its superstructure of *talas* over its *samacaturaśra* body characterised by the *adhiṣṭhāna* resting on a granite platform with a granite *paṭṭikā* and rearing *vyāla*-based pilasters on its walls. The *kaṇṭha* of the *adhiṣṭhāna* is relieved in regions below the pillar bases and carved as supporting elephant heads.

4. The row of eight independent dedicatory or memorial *vimānas* in front of the Kailāsanātha complex, also of sandstone, are *samacaturaśra, dvitala* Drāviḍa *vimānas* with *mukhamaṇḍapas* having granite slabs for the *upāna* and *paṭṭikā* of their *adhiṣṭhāna* and enshrining Somāskanda panels in their cells on the rear wall. The characteristic *vyāla* pilasters adorn their walls. The most significant feature would be the absence of the *hāra* over both the *talas.*

5. The sub-shrines surrounding the main Rājasiṁheśvara of the Kailāsanātha complex (Pls.116-117), forming a connected cloister-like chain round the inner face of the *prākāra*-walls, are all (except the two coming opposite the north-south median axial line of the main *vimāna*) *samacaturaśra, dvitala* Drāviḍa *vimānas,* enshrining mostly the forms of Śiva either as paintings, or as bas-reliefs. The two exceptions are *āyatāśra, dvitala* Nāgara *vimānas* with wagon-top roofs, simulating small *gopuras* on the north and south sides, and dedicated to Viṣṇu and Brahmā. Like the row of dedicatory or memorial shrines in front of the complex these cloister *vimānas,* too, uniformly lack the *hāra* over both the *talas.*

6. The Iravātaneśvara at Kanchi (Pl. 118) of sandstone with granite *upāna* and *paṭṭikā* in its *adhiṣṭhāna* that is raised over an *upapīṭha* of sandstone, is a *samacaturaśra dvitala,* Nāgara *vimāna* with a *mukhamaṇḍapa* facing east. The north and south *devakoṣṭhas* of the *mukhamaṇḍapa* externally enshrine Durgā and Gaṇapati respectively. The incorporation of Gaṇapati as a

vimāna devatā, in the context of its absence in such a position in other temples of Rājasiṁha when Gaṇesa forms are found to decorate the inside of *kūḍus* as in the Shore Temple and Kailāsanātha, would suggest a later date for the Iravātana temple as also for the Airāvateśvara. The south-central *devakoṣṭha* has Dakṣiṇāmūrti and those on the other two sides are representations of Śiva. The *prastara* of the āditala carried four *karṇakūṭas* and four *bhadraśālās* in the *hāra* while the *prastara* of the *mukhamaṇḍapa* has on its front line a *hāra* of two *karṇaśālās*, with a central *bhadraśālā*, an affinity with what obtains in the Dharmarāja Ratha and the Shore Temple which again would tend to an earlier dating. The second *tala* carries four Nandis at the corners. The *mahānāsikās* of the *grīvā-śikhara* region contain Brahmā in the north, Viṣṇu in the west, Dakṣiṇāmūrti in the south, and Śiva in the east, according to the currently forming Agamic conventions. The shrine has the usual Somāskanda panel on its back wall.

7. The Tripurāntakeśvara at Kanchi, also of sandstone is similar to No. 6 above, in being a *samacaturaśra dvitala* Nāgara *vimāna* with *mukhamaṇḍapa*. The *adhiṣṭhāna* stands over an *upapīṭha* with the *paṭṭikā* component in granite as usual. The walls have the typical Rājasiṁha pillars. The *devakoṣṭhas* on the north and west of the *vimāna* of this east-facing temple contain Śiva forms, while the south contains Dakṣiṇāmūrti. The *āditala* carries a *hāra* of four *karṇakūṭas* and four *bhadraśālās* while the second *tala* has Nandis at the top corners. The north and south *devakoṣṭhas* of the *mukhamaṇḍapa* have Durgā and Gaṇapati indicating the comparative lateness within the century. The cella has a Somāskanda relief on its rear wall.

8. The west-facing Vālīśvara inside the Ekāmranātha temple at Kanchi, of sandstone (now redone and plastered over with cement completely) is a *samacaturaśra tritala* Drāviḍa *vimāna*, with a *mukhamaṇḍapa*. The *āditala* carried a *hāra* of four *karṇakūṭas* and eight *śālās* in all, a pair coming between the *karṇakūṭas* on each face of the *vimāna*, a proliferation consistent with the numerical increase and consequent elaboration of *talas*. The second *tala* has four *karṇakūṭas* and four *bhadraśālās* while the third is devoid of the *hāra*, but with Nandis. The pillars lack the *vyāla* bases, and the cella enshrines a panel of Śiva and Umā *(Umāsahita)*, a characteristic of the Pāṇḍya cave temples of the south, and not Somāskanda, which would perhaps be an indication of the lateness of the temple in point of time.

9. The Kailāsanātha (Pl. 116-117) is the largest temple complex built by Rājasiṁha and added to by his son Mahendravarman III in his

father's lifetime. The main *vimāna* of the Rājasiṁheśvara with Rājasiṁha's foundation inscription on it is a large *samacaturaśra catuṣtala* Drāviḍa *vimāna* facing east, integrated, as it were, with seven abutting sub-shrines, square ones on the four corners and oblong ones on the three sides on the diagonal and cardinal axials, all functional with independent entrances and containing icons, and an oblong *ardhamaṇḍapa* on the east with passage leading to the cella, in place of and equal to the three abutting sub-shrines on the sides.

The whole scheme is achieved by the considerable offsetting of the molded *adhiṣṭhāna* and by the walls of the cantoning and cardinal shrines being engaged into the *bāhyabhitti* of the *vimāna* which is *sāndhāra* (Pl. 117). The *prastara* of these abutting sub-shrines is, likewise, continuous with that over the *bāhyabhitti* and by the *kūṭaśikharas* and *śālāśikharas* that the corner and lateral sub-shrines carry integrating harmoniously as the *hāra* over the first *tala* and by the interposition of an additional *śālā* on the recessed *prastara* line over the *bāhyabhitti* proper between each corner *kūṭa* and central *śālā*. The presence of the interposed *śālā* over the *bāhyabhitti* proper would not perhaps justify the conception of the eight affluents on the sides and corners as independent *dvitala vimānas* thus making the *āditala* one devoid of a *hāra*, as is to be found in the Shore Temple, and enunciation of an axiom that the *jāti vimānas* of Rājasiṁha lack the *hāra* over their *āditala*, which they certainly do on their *uparitala* or the topmost *tala*. The *alinda* space between the *bāhyabhitti* and *āntarabhitti* of the *āditala* is bridged over by slabs on which rests the further superstructure. This results in the elegance and the rather soaring nature of the *vimāna* as a whole, which otherwise is unusually broad-based for its height tending to make it appear squat and massive. The second *tala* which is *samacaturaśra* with straight outlines has four *karṇakūṭas* and between them on each side two *śālās* and three *pañjaras* with the odd *pañjara* coming at the centre flanked by the two *śālās* resulting in an alternating scheme of *kūṭa, pañjara, śālā, pañjara, śālā, pañjara, kūṭā* — an innovation. The third *tala* has the usual *hāra* of four *karṇakuṭas* and four *bhadraśālās* and the fourth *tala* has four Nandis at the corners. The octagonal *grīvā* and *śikhara* have *mahānāsikās* on all the eight faces. The *kūṭas, koṣṭhas* and *pañjaras* are all *dvitala* in form akin to the forms of the cloister *vimānas* surrounding the court around the main *vimāna* and the line of eight *vimānas* in front of the complex already referred to. The cantoning pilasters at the corners of the main walls and abutting sub-shrines have rearing *vyāla* bases as typical of Rājasiṁha's time (Pl. 117). The composition of the *āditala* would clearly suggest a schematic approxi-

mation and ultimate integration with a central *vimāna* of the eight surrounding sub-shrines, the *aṣṭaparivāra,* by the elimination of the intermediary open ambulatory space between the central and the eight peripheral structures. The *garbhagṛha* has a Somāskanda panel on its rear wall, obscured partially from view by the centrally placed large prismatic sixteen-faced *dhārāliṅga* of black stone characteristic of Rājasiṁha's time in which such Liṅgas seem to have been introduced. As in the case of others in this complex, while the general structure is of friable sandstone, the *upāna* and *paṭṭikā* of the *adhiṣṭhāna* are of granite slabs. The foundation inscription of the structure mentions its name as Rājasiṁheśvara.

Detached from the main *vimāna* and standing in front of it is Rājasiṁha's *maṇḍapa,* flat topped, with cantoning walls at the corners and pairs of pillars on the intermediate openings of its four faces and with more such pillars in rows inside. These are close-set and carry sandstone beams of short span. While the façade pillars are of sandstone with uniformly square shafts and molded capital components of the order, the inner pillars have shafts of the *maṇḍapa* pillar pattern with *śaduram* and *kaṭṭu* of granite but carrying capitals of molded sandstone, indicating that the skill of molding in hard stones had not till then advanced sufficiently and was too time-consuming to gain preference. The cantoning walls have rearing *vyāla*-based pilasters of sandstone engaging the corners and similar ones *in antis* on their lateral terminations.

10. Standing in front in the same axial line is the Mahendravarmeśvara, built according to its inscription by Mahendravarman III in his scheme of elaboration of his father's temple unit. It is an *āyatāśra dvitala* Nāgara *vimāna* with *śālā śikhara,* the whole again in sandstone, with the *upāna* and *paṭṭikā* of the *adhiṣṭhāna* alone of granite slabs. Neither of the two *talas* has a *hāra,* nor is there any Nandi or *bhūta* on the top *tala.* This *vimāna* with its *mukhamaṇḍapa* faces east and contains a Somāskanda panel on its rear wall and a prismatic *dhārāliṅga* of basalt in the centre of the floor of the sanctum. In alignment with this *āyatāśra* structure and standing astride it like a *gopura,* is the *prākāra* cloister, a string of *dvitala vimānas,* aforesaid, surrounding the open courtyard around the Rājasiṁhesvara and the detached *maṇḍapa* in front but leaving two narrow passages, one on either flank of the Mahendravarmeśvara, affording entry into the court from outside. In front of the Mahendravarmeśvara is a smaller enclosure with a small *ekatala gopuradvāra* on the east and two simple lateral entrances. In the rear of the complex, on the middle of the western cloister line, is a *dvitala gopura* of the same magnitude as the *āyatāśra vimānas*

of the cloister to the north and south of the main *vimāna.*

The introduction of the *pañjara* or *nīḍa* as a third major component of the *hāra,* as seen over the first *tala* of the Rājasiṁheśvara, would mark the fixation in Rājasiṁha's time of a norm, that was incipient in two of Māmalla's temples — the Dharmarāja and Nakula-Sahadeva Ratha. More interesting is the elimination of the *hāra* totally from both the *talas,* as in the Mahendravarmeśvara, and the lesser *dvitala vimānas* of the cloister and the front row, a feature that was only transient in the structural experiments of this great builder. The *hāras* once again recur as obligatory features in the lower *talas* of southern *vimānas* of subsequent times, though the absence of this is noticeable in the later temples of the region north of Toṇḍaimaṇḍalam. The *talacchanda* of four massive storeys designed for the first time in weak sandstone in the Rājasiṁheśvara and the consequent need for counteraction of load and thrust necessitated Rājasiṁha's adoption of a broader base in proportion to height, and further reinforcement of the *āditala* by abutments of actual shrines at the corners and sides of the structure, in addition to the massive, double walls and their bridging over to carry the superstructure.

11. The Tālagirīśvara on top of the hill at Panamalai (South Arcot District) is built entirely of the local reddish granite, fairly well-wrought and built in courses of stones of medium thickness (Pl. 119). This *vimāna* constructed by Rājasiṁha according to his own inscription on it is a *samacaturaśra tritala vimāna* of the Drāviḍa order, facing east, with abutting oblong shrines on its three sides and an *ardhamaṇḍapa* of the same plan and stature in front on the east, all erected over the correspondingly advanced off-sets of the main *adhiṣṭhāna.* The presence of the abutting *dvitala vimāna* forms on the three cardinal sides with a like *ardhamaṇḍapa* on the fourth in front of this *jāti vimāna* represents a continuation of the traditions of the Rājasiṁheśvara at Kanchi, though the harder stone used in the construction did not perhaps require reinforcement at the corners or a double walling of the *āditala* as we find at Kanchi. The cantoning pilasters at the corners of the main and abutting structures have rearing *vyāla*-bases carrying capital components of the order. The lateral *āyatāśra dvitala* shrines have their *āditala prastara* continuous with that of the main structure, and carry over their short second *talas grīvās* with *śālāśikharas* that take the place of the *bhadraśālās* of the *hāra* of the *āditala* along with the *karṇakūṭas* at the rear corners of the *āditala* and the recessed *pañjaras* between. The massiveness of the wall of the *āditala* helps in keeping the *hāra* rather clear off the second *tala* though there is no real *alinda.* The second *tala* is also relieved by offsets

on its sides, carrying the four *bhadraśālās* which with the four *karṇakūṭas* repeat the pattern of the *āditala,* without *pañjaras.* The third *tala,* mostly reconstructed in brick should have been similar to the second *tala.* The walls of the *āditala* are severely plain, without sculpture of any kind except for the *vyāla* pilaster. The shrine cell contains a Somāskanda panel high up on the rear wall and above the height of the sixteen-sided prismatic Liṅga installed on the centre of the floor, indicating the simultaneous installation of both objects of worship, manifest and symbolic, for the first time in Rājasiṁha temples, which would also indicate that the installation of the Liṅga in the other instances was not preplanned in the design of the structure. Similar Liṅgas are installed in the lateral shrines. The top of the first *tala* has over the *kapota* and in front of the *karṇakūṭas* squatting *bhūta* figures blowing conches, now fallen down but originally inserted by basal tenons into mortice holes found at these places. Similar *bhūtas* occupied the four corners of the top *tala,* which had no *hāra.* The *grīvā* and *śikhara* as reconstructed in brick, evidently on the original pattern, are octagonal in section indicating that the *vimāna* belonged to the Drāviḍa order.

12. The Shore Temple or Alaivāyakoil (Pl. 115) is a complex of three proximate nuclear shrines — a smaller west-facing *samacaturaśra tritala* Drāviḍa *vimāna* called Rājasiṁheśvara, a larger east-facing *samacaturaśra catuṣtala* Drāvūḍa *vimāna* called Kṣatriyasiṁheśvara, both dedicated to Śiva, and interposed between these two an east-facing *āyatāśra maṇḍapa*-shrine called Narapati Siṁha Pallava Viṣṇugṛha abutting on the former at its rear and enshrining a previously existing *ābhicārika* form of reclining Viṣṇu cut out of an *in situ* rock. The *adhiṣṭhāna* of the Rājasiṁheśvara is partially formed by the sculptured rock and the southern half of its rear wall is integrated with part of the rear wall of the Viṣṇu shrine. The integrated Rājasiṁheśvara and *maṇḍapa*-shrine of Viṣṇu are the earliest of the complex, forming a nucleus of a Śiva temple facing west with a Viṣṇu temple, though slightly out of alignment, facing east at its rear. The Kṣatriyasiṁheśvara, standing a little detached in front of the Viṣṇu shrine in alignment with it was built much later in the reign of Rājasiṁha. The complex further comprises accessory *maṇḍapas* in axial alignment with the Rājasiṁheśvara on the west, *prākāras* and *gopura* entrances on its periphery, all ruined and discernible only in plan. The Kṣatriyasiṁheśvara has a closely investing *prākāra* wall on its north, east and south, but open on the west for independent access to the Viṣṇu temple at its rear, with a small *gopuradvāra* on the east facing the sea. The

general material of construction of the complex is a dark, hard and coarse, porphyry-like stone. The flooring below and the *paṭṭikā* on top of the *adhiṣṭhāna* of the *vimānas* is, however, of granite slabs, and the *stūpīs* of black basalt. The pillars have the rampant *vyāla* bases and capitals of the order. The superstructures of both the *vimānas* are quite unlike any of the other Rājasiṁha temples. The accentuation of the height of the various *talas* in combination with the minimally reduced basal width of the *vimāna* lend an apparent height and slenderness as opposed to the squattish appearance of the Rājasiṁheśvara of the Kailāsanātha complex. The *āditalas* in both *vimānas* are devoid of the *hāra,* and the corners are occupied by four sitting lions in the larger *vimāna* and by four squatting *bhūtas* in the smaller *vimanā.* The *mukhamaṇḍapa* façade of the smaller *vimāna* has a *hāra* of two *karṇaśālās* or *kūṭaśālās* at the corners with the long intermediate *hārāntara* carrying a recumbent Nandi. The *hāra* over the *mukhamaṇḍapa* of the larger *vimāna,* has *karṇakūṭas* with the *pañjaras* between on the front line and one *pañjara* behind on either side line. The second *tala,* in both the *vimānas,* carries a *hāra* which consists of four *karṇakuṭas* and four *bhadraśālās* alone in the case of the smaller *vimāna,* while in the case of the larger one eight *nīḍas* in all are added to the *hāra* as a whole, a *nīḍa* coming between *karṇakūṭa* and *bhadraśālā* on each cardinal side. The third *tala* or the topmost *tala* of the smaller *vimāna* is devoid of the *hāra,* but carries four conch-blowing squatting *bhūtas* at the corners. The third *tala* of the larger one has the usual *hāra* of four *karṇakūṭas* and four *bhadraśālās,* while the fourth or topmost *tala* bereft of the *hāra* carries the *bhūta* forms as in the other case. The octagonal *grīvā* is tall in both, as also the high octagonal *śikhara* which is more campanulate, with a greater diameter comparatively at their brim or *oṣṭha* than that of the *grīvā.* The *nāsikā* arches in all the eight segments have figures of Gaṇapati. The *stūpī* is tall, slender and fluted with twelve-sided section. The *prākāra,* of lesser height than the *āditala* of the larger *vimāna* and its *mukhamaṇḍapa,* and almost closely investing them both on the three sides, north, east and south with a very narrow ambulatory in between, also carries a *hāra* of *kūṭas* and *śālās,* the former occupying the corners and inturning angles. The *śālā* of this *hāra* coming over the slightly projected seaward entrance on the east is of larger dimensions, intended to make the entrance simulate a small *gopuradvāra.* The close-built *prākāra* of lesser height than the *āditala* gives an apparent *pañcatala* look to the *vimāna* as a whole when viewed from outside. Besides the *vyālapādas,* there are other pilasters in the make-up of the *mukhamaṇḍapa,* and the inner face of the *prākāra* wall that have elephant, *nāgarāja,* ram, *bhūta* and other motifs as bases.

Such modified forms are found in the *mukhamaṇḍapa* pilasters of the Nakula-Sahadeva and Gaṇeśa Rathas. It is interesting to note that these are mentioned as the variant forms in the *Vaikhānasāgama* and *Vimānārcanākalpa*. Thus while the Rājasiṁheśvara shows affinities with the earlier Rathas, the Kṣatriyasiṁheśvara shows advanced features, marking a clear difference of time between them, though within the same reign.

13. The Olakkaneśvara temple on top of the hill at Mahabalipuram, a Rājasiṁha structure in fine whitish-grey granite, facing west, has lost its superstructure totally, as also the inner facing stones of the *āditala* and its *mukhamaṇḍapa* as a result of its conversion into a light-house base in the last century. The carved and molded outer shell alone is extant. It has an *upapīṭha* with a kapota molding with *kūḍu* arches, over which stands the *adhiṣṭhāna* of smaller dimensions and relieved on the four sides resulting in a narrow ambulatory around its base over the *upapīṭha* platform. The *vimāna* is *samacaturaśra* and the cantoning pilasters are *vyāla*-based. The *adhiṣṭhāna* and walls are relieved on their sides. The *devakoṣṭhas* on the relieved south wall contains a Yoga-Dakṣiṇāmūrti form and those on the east and north walls forms of Śiva. The projected *nakulapādas* flanking the *devakoṣṭhas* have *bhūta*-bases and carry a *prastara* crowned by a *pañjara* top, which is in fact the *kūḍu* arch of the main *kapota* of the *āditala prastara*. The recessed parts of the wall carry elephant-based pilasters. The characters of the extant structure on the whole would suggest its date to be in the later part of the reign of Rājasiṁha.

14. The Vaikuṇṭhaperumāḷ or Parameśvara Viṣṇugṛha at Kanchi (Pl. 120), the *magnum opus* of Nandivarman II Pallavamalla, is a *samacaturaśra catuṣtala vimāna* of the Drāviḍa order, facing west with a frontal square *mukhamaṇḍapa* of lesser width, both standing over a tall adhiṣṭhāna. These are surrounded by a cloister *maṇḍapa* walled by the *prākāra* externally and pillared all along its inner edge forming a raised and covered *pradakṣiṇā* around the *vimāṇa* and its *mukhamaṇḍapa* enclosing a sunken, narrow and open *pradakṣiṇā* in between. The structure is built entirely of sandstone, the floor below the *adhiṣṭhāna* and the *paṭṭikā* on its top above being of granite slabs. The *āditala* and the two *talas* above are functional providing shrines for the three forms of Viṣṇu — sitting, standing and reclining — the topmost *tala* being a closed one on all four sides and as such merely symbolic but accentuating the height of this unique structural composition in relation to its base. The *talacchanda* or rise is achieved by the system of concentric walling — a system of three walls, carrying *hāras* over their *prastaras*, of successively increasing height built one behind the other on

each side, thus giving it a *sāndhāra* make up, the innermost wall really enclosing the three superposed *garbhagṛhas* or cells separated horizontally from each other by terraces at the respective *prastara* levels. The closed topmost *tala* of lesser dimensions than the third *tala* is raised over its terrace. Thus the *āditala* has a *garbhagṛha* surrounded by two closed ambulatories between the three walls with an open sunken one at the *upāna* level enclosed by the *prākāra* cloister, making in all three *parikramās*. The second *tala* has two ambulatories, the inner one closed and coming between the intermediate wall and the *antarabhitti* and an outer one open on the *alinda* behind the *hāra* of the *āditala* over the *prastara* of the *bāhyabhitti*. The third *tala* has a single open ambulatory on the *alinda* between the *hāra* of the second *tala* over the *prastara* of the intermediate wall and the *āntarabhitti*. The *hāras* of the *āditala* and of the closed and pillared *mukhamaṇḍapa* are made of boldly formed and large *karṇakūṭas, pañjaras* (which show their apsidal aspect in full when viewed from the *alinda* side) and *śālās*. The *adhiṣṭhāna* as also the *bāhyabhitti* and *prastara* above, of the *vimāna* part are projected as three bays on each side, north, east and south, with the central one of greater width, to correspond with the oblong plan of the large *bhadraśālā* of the *hāra* above, than the extreme ones which correspond to the *karṇakūṭas* above. Between the *karṇakūṭa* and *bhadraśālā* of each side is a smaller *bhadraśālā* flanked by two *nīdas,* one on either side of it. The central bays are real door openings narrow on the north and south while the one on the east is made broader to form the entrance into the circumambulatory passage and reached by a bridge from the cloister *maṇḍapa* across the sunk floor of the narrow open court. The recesses between the bays have trellis windows or *vātāyanas*. Between the intermediate wall and the *āntarabhitti* on the eastern side the ambulatory is filled up by two ascents of steps, right and left, leading to the closed ambulatory of the second *tala*. The space between the *bāhyabhitti* and the intermediate wall forms the closed *parikramā* around the ground floor sanctum, to which, as also to the staircase, the opening on the east gives access. The extreme bays have *devakoṣṭhas*. The pilasters on the walls are *vyāla*-based with capital components above. The second *tala* wall (the intermediate wall) has externally four projected bays and three recesses in between cantoned by pilasters on each of the three sides, with an *antarāla* formed by the ambulatory and a *mukhamaṇḍapa* on the west. The two intermediate bays are wider than the two extreme ones corresponding respectively to the two *śālās* and two *karṇakūṭas* above the *prastara*, the three recesses corresponding to the *pañjaras* that come in between. The *mukhamaṇḍapa* façade also has a

similar *hāra* on top. The wall of the third *tala* is relieved thrice, the central bay wider than the extreme ones corresponding respectively to the *bhadraśālā* and two *karṇakūṭas*, the two recesses in between corresponding to the two *pañjaras* of the *hāra* above. The topmost *tala* is devoid of the *hāra* and had formerly four lions at the corners, now replaced by four seated Garuḍa figures, both the lion and Garuḍa being appropriate cognizances of Viṣṇu. The cloister wall of lesser height than the *āditala* carries over it a *hāra* of *kūṭas* and *śālās*, in addition to having a series of *vyāla*-based pilasters and *devakoṣṭhas* externally over its *adhiṣṭhāna* in harmony with the scheme inside. This feature lends the appearance of a *pañcatala vimāna* to the whole structure when viewed from outside. This, in conjunction with the similar case of the Kṣatriyasiṁheśvara of the Shore Temple complex, would suggest not only a proximity in point of time of these temples, but also call to mind the fact that a *pañcatala vimāna* was the ideal for a *mukhya vimāna* which could in effect be simulated by the addition of an investing *prākāra* with *prastara* and *hāra*, rather than by adding one actually at the risk of broadening the base out of proportion to the total height. In this one can clearly discern a compromise in the base-height tussle that troubled the minds of the designer-architect. The open circuit around the outer wall taken along with the four inside around the *āditala* including the cloister *pradakṣinā*, would also incidentally constitute the *pañcapradakṣinā* and anticipate the *pañcaprākāra* conception, which perhaps was there if the present compound wall with a very late *gopura* replaced an original one.

15-16. The Mukteśvara, called Dharmamahādevī Īśvaram (Pl. 121), and the Mātaṅgesvara, though found in two different places in Kanchi, are alike in many respects. Both are *samacaturaśra tritala* Vesara *vimānas* with *vṛtta grīvā* and *śikhara*, standing with their *mukhamaṇḍapas* on bold *adhiṣṭhānas* raised over tall *upapīṭhas* which enhance the height and stature of the two *vimānas* as the *Śilpa* texts avow. The floor and top of the *upapīṭha* are of granite as also the *paṭṭikā* over the *adhiṣṭhāna*, while the rest of the structure is of sandstone. Both the structures face west, and have rampant *vyāla*-based pilasters only at the front corners of the *mukhamaṇḍapa* and hind corners of the *vimāna* part, the rest on the walls, in pairs, being plain pilasters with tetragonal shafts, all carrying capitals of the order, the intercolumniation between the pilasters of a pair corresponding to the nature of the *hāra* components above. The *hāra* is made of two *karṇakūṭas* and two *śālās* between them over each side of the *vimāna* while the *mukhamaṇḍapa* part, at a slightly lower level as usual, has *karṇakūṭas* and *bhadraśālās* of slightly lesser dimensions. The second *tala* has a *hāra* of four *karṇakūṭas*

and four *bhadraśālās* while the third *tala* is bereft of the *hārā,* but carries four Nandis at the corners. The *mukhamaṇḍapa* has two couchant-lion-based pillars on its façade and two such pilasters *in antis* at either extreme. In alignment with the façade pillars are two more lion pillars inside, dividing the *maṇḍapa* into fore and hind parts.

The elimination of the *nīḍa* or *pañjara,* the third essential component of the *hāra,* in *vimānas* up to the *tritala* variety, and its sole inclusion in *vimānas* with *talas* exceeding three, as in the larger *vimāna* of the Shore Temple, the Rājasiṁheśvara of Kailāsanatha and the Tālagirīsvara is significant as a convention that was observed during the eighth century.

The sculptures on the walls, externally and internally, are mostly sunk reliefs, carved out of core material derived by scooping all around an original plain and dressed surface and as such are much later, by at least a century, than the temple proper. While they have been completed all around the Mukteśvara, they are not thus completed on all the sides of the Mātaṅgesvara. This method is contrary to the usual bold relief technique of the Pallavas with sculptures standing out from the plain surface all around which was dressed subsequently but reminiscent of the technique found in some of the Pāṇḍya cave temples in the far south. Further, in the scheme of polarisation, the appearance of Gaṇapati on the south wall and furthermore of the Liṅgodbhava in place of Viṣṇu on the west wall also point to a later date for the sculptural additions. One sees Durgā on the north wall of the *mukhamaṇḍapa* for the first time in the Rājasiṁheśvara at Kanchi, but not Gaṇapati on the corresponding south wall. Dakṣiṇāmūrti had become polarised on the south wall of the *vimāna āditala,* even earlier than Rājasiṁha's time.

17. The Kailāsanātha at Tiruppattur (Tiruchchirappalli District) datable to the later part of Nandivarman's reign (Pl. 122), if not to the early part of Dantivarman's reign, is a *sāndhāra vimāna* in sandstone, similar in many respects to the Rājasiṁheśvara of the Kailāsanātha complex at Kanchi. It is a *samacaturaśra catuṣtaḷa* Drāviḍa *vimāna* of *sāndhāra* type, built wholly of sandstone, facing east with a *mukhamaṇḍapa* of lesser dimensions projected in front on the forward extension of the same *adhiṣṭhāna.* The *adhiṣṭhāna* stands on a raised *upapīṭha.* The *vimāna* wall is rendered straight on its *vinyāsasūtra* and lacks the abutting side- or corner-shrines of the Rājasiṁheśvara at Kanchi. The *āditala* has *devakoṣṭhas* on its walls, divided into five sections by paired pilasters cantoning an equal number of bays of the wall face, on the south, west and north. Of these the central ones are the widest, the intermediary ones less wide and the extreme

ones narrow in consonance with the scheme of a central larger *bhadraśālā*, two intermediary *śālās* of lesser width, and the two extreme *karṇakūṭas* of the *hāra* line over the *prastara* of the *bāhyabhitti*. The *antarabhitti* inside forming the *antarāla* in front of the shrine entrance is provided with its own *vedī*, cantoning pilasters at the corners and flanking pilasters on either side of the front entrance, features which would make it a *sāndhāra* as opposed to the pseudo-*sāndhāra* nature of the Rājasiṁheśvara. Further, from about half the height of their faces inside the circumambulatory the walls are drawn into corbelling offsets in what is called the *kadalikākaraṇa* fashion to approximate at the top and to be closed over by bridge stones which afford a broad base for the superstructure and space for an open *alinda* behind the *hāra* of the *āditala*. The *kadalikākaraṇa* device is absent in the Rājasiṁheśvara or in Cāḷukya examples, but is to be found again in the Bṛhadīśvara at Thanjavur and Gangaikondacholapuram of Coḷa times. This constructional improvement for the bearing of the superimposed load and counteraction of thrust is thus local and found carried on by the Coḷas in their large *sāndhāra* constructions. The external pilasters of the *bāhyabhitti* on the three sides in all cases, excepting those of the inner ones of the *mukhamaṇḍapa*, have for their bases couchant lions with one forepaw raised and the other forepaw resting on the ground. In the case of the two exceptions, however, both the legs rest on the ground. The central and the two adjoining bays on each wall contain *devakoṣṭhas*. The *prastara* section over the *uttara* (beam), and below the rather attenuated *kapota* has a bold *bhūtamālā* and the *prastara* carries over its upper *vyālamālā* a line of two *karṇakūṭas* and three *śālās*, the central one being larger. The second *tala* carries four *karṇakūṭas* at its corners over its *prastara* and two *śālās* in between on each side, appliqué on the walls of the third *tala*. The third *tala*, of the same height as the second, carries over its *prastara* four *karṇakūṭas* and four *bhadraśālās*, making a harmoniously rising scheme of *śālās* — three, two and one over the first, second and third *talas* between their extreme *karṇakūṭas*. The fourth *tala* is of rather abbreviated height carrying Nandis at the four corners and an octagonal *grīvā* and *śikhara* at the center. The shrine cell has a *dhārāliṅga* without an *āvuḍaiyār* (pedestal) and there is no Somāskanda panel, nor even an Umāsahita panel as in the Vāliśvara of Kanchi attesting to the lateness of the date of the temple, when the wall icon disappeared yielding place to the centrally placed Liṅga. This would also indicate that the *āvuḍaiyārs* or *liṅgapīṭhas* wherever found in Pallava temples were later additions, often in three parts — the lower of complementary halves pressed against the base of the Liṅga and the upper

with the spout and central hole slipped down the Liṅga from above into position and to keep together the two halves below. Evidences of this later addition are not wanting. Inside the *mukhamaṇḍapa* entry into the circumambulatory on either side is provided by two steps from its ground level. The *mukhamaṇḍapa* is reached by a flight of steps in front, and the two flanking walls have niches for *dvārapālas*. The *catuṣtala talacchanda*, with a well-harmonised height-base ratio despite its *sāndhāra āditala* lending grace and stature to the *vimāna* is achieved to a better degree than in the Mukteśvara and Mātaṅgesvara by the equality of the height of the second and third *talas*, and the reduction of the height of the fourth *tala*. The persistence of the *sāndhāra* character, long after its earlier use in the metropolis, can be interpreted as an archaism in the provincial region, but the *kadalikākaraṇa* is an innovation not thought of earlier in Toṇḍaimaṇḍalam. The superstructural composition of this *vimāna*, though very close to that of the Rājasiṁheśvara and Vaikuṇṭhaperumāḷ, is completely free from the elaborations so characteristic of those two large *vimānas*. The southern *devakoṣṭha* has a Dakṣiṇāmūrti, the western one a Liṅgodbhava and the northern one a Tāṇḍava Śiva. The placement of Liṅgodbhava on the west or rear *devakoṣṭha* is again an iconic landmark and should trace its origin from further south. The presence of a *lalāṭabimba* of Gajalakṣmī with attendants on the lintel over the *mukhamaṇḍapa* entrance is again a new feature. The two *dvārapālas* too are four-armed, an unusual feature and found only in the later temples of the Pallavas like the Mukteśvara and Mātaṅgeśvara as also would be the sculpture of Rāvaṇa lifting Kailāsa, a familiar and oft-repeated theme in contemporary Cāḷukya-Rāṣṭrakūṭa temples, significant in the context of the fact that there were direct political contacts between the two early in Dantivarman's reign. The Aṣṭabhujatāṇḍava Śiva on the northern wall *devakoṣṭha* would again be a link with Ellora. The Kālārimūrti sculpture on the same side with Mārkaṇḍeya shown worshipping a Liṅga in an inset above separated by a trailing serpent, would recall such synoptic trends of narration found in the southern region. In every sense the temple exhibits a mixed style and trends natural for an outlying structure lying in the heart of the Coḷamaṇḍalam where the *sthapati* has, while retaining much of the earlier Pallava norms of metropolitan style, drawn also from local and peripheral ideas.

18. The Sundaravaradaperumāḷ (Pl. 123) temple at Uttiramerur (Chingleput District) is another example of the time of Dantivarman Pallava, of a *samacaturaśra tritala vīmana*. The *adhiṣṭhāna*, of complex design, rests over an *upapīṭha*, both of finely worked granite and thrown forward

as wide offsets repeated twice on the two sides and on the rear while in front they are continued as the *adhiṣṭhāna* and *upapīṭha* of the *mukhamaṇḍapa*. The *āditala* is a composite of three lateral shrines sunk into the massive brick wall around the main sanctum and extending forward over the inner offset of the *adhiṣṭhāna,* the outer and lesser offset providing the basis for the *mukhamaṇḍapa* of the respective shrines, with a *sopāna* in front of each. The walls are of brick with stone lintels spanning openings and spaces and niches. The *āditala prastara* has a *hāra* of *karṇakūṭas* with *nīḍas* immediately inside on the line over each side, while the projected bays of the lateral shrines have, in their *prastara* part, at the same level, a large central *bhadraśālā* and two karṇakūṭas at the corners, with a *nīḍa* in between, and the still advanced offset has a large *śālā,* all *dvitala* throughout. The *prastara* of the *mukhamaṇḍapa* has two *karṇakūṭas* at the front corners, a large *bhadraśālā* in the centre, with a *nīḍa* in between the *kūṭa* and the *śālā,* while over the lateral walls are two *bhadraśālās* smaller than the *śālā* in front. The second *tala* has an open ambulatory on the *alinda* behind the *hāra* line and a small *mukhamaṇḍapa* in front supported inside by stone pillars with capital components in the same material. Access to the open terrace in front is by two flights of steps along the inside of the lateral walls of the ground floor *mukhamaṇḍapa*. The second *tala* is of the same pattern as the *āditala* and the *hāra* over its *prastara* is *arpita,* appliqué, on the third *tala,* which is reached by two lateral flights of steps from the top of the *āditala* mukhamaṇḍapa. The *garbhagṛha* of this *tala* is more oblong than square with a narrow *antarāla* in front — evidently designed for the reclining form of Viṣṇu, while the storey below has Viṣṇu seated, and the central cella of the *āditala,* has Viṣṇu standing with his two consorts. The three lateral shrines of the *āditala* likewise have standing forms of Viṣṇu while the three lateral shrines of the *madhyatala* have three seated forms of Viṣṇu. All the icons are of brick and stucco. The *grīvā* and *śikhara* are octagonal. and in place of *mahānāsikās* on the four cardinal sides, there are projected *śālās* enshrining appropriate deities, a rather rare feature. This is a very interesting and complex *vimāna* construction.

19. All that survives of the Vaikuṇṭhaperumāḷ, also at Uttiramerur, is its fine *adhiṣṭhāna* raised over an *upapīṭha,* all of finely wrought granite, with a stone *sopāna* front. The original brick superstructure is entirely lost. This temple was also of the time of Dantivarman. The two temples belong to the final phase of Pallava architecture marked, particularly, by a reversion to brick work.

20. The Vīraṭṭāneśvara temple at Tiruttani (Chingleput District,

formerly Chittoor) (Pl. 124) built by Nambi Appi in black stone in the sixteenth year of Aparājitavarman Pallava according to the inscriptions on it, is an example of an *ekatala vimāna, samacaturaśra* upto the *prastara* with apsidal *grīvā* and *śikhara*. It is built of fine grained black granite, and in its sculptural composition betrays local influences of this Gaṅga-Bāṇa region. It is the last of the temples that can be taken under the Pallava series, despite its fabric of construction and other traits. The Viṣṇu temple at Nenmeli in the neighbourhood built six years earlier, in the tenth year of Aparājita, has a plinth of the same black stone with brick construction above.

V. GOPURAS AND MAṆḌAPAS

Gopuras and *maṇḍapas,* forming accessories of the temple complex, as opposed to unitary *vimānas* with *mukhamaṇḍapa* examplified by the Rathas and similar smaller structures enumerated above, were not unknown to the Pallava temple builders. Instances of incipient and real *gopuras,* as for example in front of the large Kṣatriyasiṁheśvara of the Shore Temple complex, and in front and rear of the Kailāsanātha temple complex, Kanchi, have been detailed before. The ruins of the Shore Temple complex on its west indicate the existence of full-fledged *gopuras* in front and perhaps on the sides of the *prākāra* also.

The *maṇḍapas,* primarily built of brick, had stone pillars inside supporting the terrace, as pre-Pallava evidences from Nagarjunakonda and other places would show. *Maṇḍapas* with stone pillars and slab roofing overlaid by brick terrace or with wooden joists supporting the brickwork terrace are common among temples of Kanara and Malabar on the west coast. A few *maṇḍapa* pillars of stone, cut out of natural pillar rocks, with characteristic *śadurams* and *kaṭṭu* with inscriptions of the times of Mahendravarman I from the debris of an earlier temple are found reused in a multi-pillared *maṇḍapa* in the Ekāmranātha complex at Kanchi. As *maṇḍapa* pillars they could not have formed part of a *vimāna*. Similar pillars with Māmalla's inscriptions have come to light from Sivanvayal and Kuram. A pillar fragment with an inscription of the first regnal year of Parameśvaravarman I from Sirrambakkam is also known. The granite pillars of Rājasiṁha's *maṇḍapa* in the Kailāsanātha complex at Kanchi, with capital moldings in sandstone, would attest the fact, that quarrying of long sections of granite for beams and pillars, or its working could not have been extensive, and sandstone was the inevitable choice where

shaping and molding was required. Similar *maṇḍapa* pillars with Rājasiṁha's inscriptions are to be found incorporated into later structures at Vāyalūr and Tirupporūr (Chingleput District). It could be safely said that except for the sporadic examples of the use of hard stones, as in the Panamalai temple, the Shore Temple, the Mukundanāyanar temple and the Olakkanneśvara in a mileu of softer sandstone work, the general adoption of hard stone and a more perfected technique of quarrying and working it are not to be seen before the end of the eighth century, which was in the time of Dantivarman. An all-stone *maṇḍapa* of this period is to be found in front of the Śīyamaṅgalam cave temple.

The developmental trends during the three centuries of intense activity in stone architecture and architectonics could only be outlined as above in the context of the brief descriptions of the examples. The main ones bear recapitulation. The foundations of the much doubted ternary classification of the southern *vimānas,* can safely be said to have been laid in the Pallava times, based on the common plans — rectilinear (square and oblong), polygonal (hexagon and octagon) and curvilinear (circle, elipse and apse) — either homogenous from base to top or restricted to the top elements — the *grīvā* and *śikhara.* The elaboration of storeys or *talachanda* called for suitable structural expedients in the new material and in this context, instances of atrophy of earlier components, and introduction of new components and features, as in the *hāra* over the top *tala,* and their final crystallization by the end of the period set the norms for the codification of the early textual canons, incorporating what was there before with what had come to be currently practised. This is the case with the later texts also. As such a simultaneous study of the texts with the dated or datable monuments would afford a chronological stratification of the texts concerned. This time index is also helped by the factor of gradual polarisation in the course of time of certain fixed iconic forms in particular parts of the temple body, as for example, Dakṣiṇāmūrti, Durgā, Gaṇapati etc., as seen in the temples of the period, most of which can be precisely dated from their foundation inscriptions. Certain trends, like the *hāra* extending over the *mukhamaṇḍapa* continued till the close of the period in the region only to be finally abandoned by the growing influences of the more southern styles. The most common plans adopted are the square, the oblong and the apsidal, since it is found that it is these forms that have been fossilised in the *hāra* formations of temples of subsequent periods in Tamil Nad till this day.

Table III

CHRONOLOGY OF THE TOṆḌAIMAṆḌALA TEMPLES

(PALLAVA PERIOD)

KING	REGNAL DATES	TEMPLES
Siṁhaviṣṇu	*c.* 550-80	(rock-cut cave temples exclusively)
Mahendravarman I	*c.* 580-630	
Narasiṁhavarman I (Māmalla)	630-68	(several rock-cut caves and basrelief panels) rock-cut temples: Draupadī Ratha, Mahabalipuram Arjuna Ratha, Mahabalipuram Bhīma Ratha, Mahabalipuram Dharmarāja Ratha, Mahabalipuram Nakula-Sahadeva Ratha, Mahabalipuram
Mahendravarman II	668-72	
Parameśvaravarman I	672-70	(some rock-cut caves) rock-cut temples: Gaṇeśa Ratha, Mahabalipuram Valayaṅkuṭṭai Ratha, Mahabalipuram Southern Piḍārī Ratha, Mahabalipuram Northern Piḍārī Ratha, Mahabalipuram structural temples: Vedagirīśvara temple, Tirukkalukunnram Apsidal Śiva temple, Kuram Śiva temple, Kalambakkam
Narasiṁhavarman II (Rājasiṁha)	*c.* 700-28	(a few rock-cut cave temples) structural temples: Olakkaneśvara temple, Mahabalipuram Mukuṇḍanāyanāra temple and Shore Temple, Mahabalipuram Kailāsanātha temple, Kanchipuram Airāvateśvara temple, Kanchipuram Piravātaneśvara temple, Kanchipuram Iravātaneśvara temple, Kanchipuram Tripurāntaka temple and Vāliśvara temple, Kanchipuram Tālagirīśvara temple, Panamalai

Table III—*Contd.*

KING	REGNAL DATES	TEMPLES
Mahendravarman III	(pre-deceased in Rājasiṁha's time)	Mahendravarmeśvara chapel in Kailāsanātha temple group, Kanchipuram
Parameśvaravarman II	*c.* 728-31	Vīraṭṭāneśvara temple, Tiruvadigai
Nandivarman II (Pallavamalla)	*c.* 732-96	Mukteśvara temple, Mātaṅgeśvara temple, and Vaikuṇṭhaperumāḷ temple, Kanchipuram Kailāsanātha temple, Tirupattur
Dantivarman	*c.* 796-846	Sundarvaradaperumāḷ Kailāsanātha temple and Vaikuṇṭhaperumāḷ temple, Uttiramerur
Nandivarman III	*c.* 846-59	Viṣṇu temple, Kiliyanur Śiva temple, Sumangali
Nṛpatuṅgavarman	late ninth to early tenth century?	Śiva temple, Nenmali
Aparājitavarman		Vīraṭṭāneśvara temple, Tiruttani
Kampavarman		
Nandivarman (IV) (Tellar Nandi)	mid-tenth century?	

K.V. SOUNDARA RAJAN

EARLY PĀṆḌYA, MUTTARAYAR AND IRUKKUVEḶ ARCHITECTURE

(Plates 127-153)

I. INTRODUCTION

The first stone structural temples in southern Tamil Nad date from the beginning of the ninth century. As is known, the pioneers of this type of edifice were the Pallavas, whose building activities, begun in the seventh decade of the seventh century (as the Sirrambakkam record of Parameśvaravarman I shows), were intensified in the beginning of the following one, during Rājasiṁha's rule. But all previous Pallava structural temples were in sandstone; granite was sometimes used, and sparingly, only as a reinforcement, as in the Kailāsanātha and Mukteśvara temples at Kanchi and in the temple at Panamalai. The subsequent more general use of granite or hard stone can thus be taken as the sign of a new trend, one which was indeed to prove fundamental in the construction of the numerous temples erected in the following thousand years.

Why then did the Pallavas avoid a wider use of granite? One important reason is that their workmen found it hard to quarry granite slabs. It was less of a problem for them to *carve* monolithic temples and sculpture in the same material, but when it came to erecting structural temples, they preferred a soft stone (as did the temple carvers of the Deccan), and continued to do so up to the tenth century—witness the temples at Tiruppattur, Kanchipuram and Sumangali. The only exception is the Vīraṭṭāna temple at Tiruttani, which is in black stone, erected in the eighteenth year of Aparājita by one of his local subordinates, Nambi Appi. The same material was also used in the Viṣṇu temple at Nenmeli (built in the tenth year of Aparājita), but only on the socle; the walls and towers are in brick.

Hence it is evident that even in this area the structural temples are only from the eighteenth year of Aparājita; that the technical and cultural preferences of Nambi Appi's craftsmen of the Chittoor region were not

those of their Pallava counterparts, but those of the artisans of the Gaṅga-Bāṇa-Vaiḍumba centers; that there is no Pallava participation in these temples; and that the beginning of the use of granite in southern Tamil Nad is not due to Pallava example, as I shall show in greater detail below.

II. BACKGROUND INFORMATION

The Pāṇḍyas, Muttarayars, and Irukkuveḷs were contemporary with the Pallavas. The first Pāṇḍya kingdom is now seen to have lasted from A.D. 500 to 950. In this period the earliest royal patron of architecture is Māṟan Sendan (*c.* A.D. 650-700) who in his records claims to have reigned more than fifty years. His successors were Arikesari Māṟavarman Koccadayan, Māṟavarman Rājasiṁha, Māṟañjaḍaiyan, Śrī Māṟa Śrī Vallabha, Māṟañjaḍaiyan Varaguṇa II and Parāntaka Vīranārāyaṇa. The dynastic line ended with Māṟavarman Rājasiṁha II and Vīra Pāṇḍya towards the middle of the tenth century, when both monarchs were ousted by Parāntaka Coḷa.

The Muttarayars ruled almost from the time of Parameśvaravarman I, as seen from the fact that the three early kings given in the Sendalai genealogy appropriated the titles *viḍelviḍugu, mārppiḍugu,* etc. of their corresponding Pallava contemporaries. Outstanding among rulers of whom we have records is Sattambudi, alias Viḍelviḍugu Ilango Adi Arayar, son of Kuravan Sattan, the original builder of the Vijayālayacoḷīśvaram, and the excavator of the Malayadipatti cave. Sattambudi was also the father-in-law of Sattan Māṟavan, or Samarābhirāma, the Irukkuveḷ chief, whose son, Budi Vikramakesari, or Māṟavambudi, was the builder of the celebrated Muvarkoil of Kodumbalur. The other Muttarayars who succeeded Sattambudi are mentioned in the chart, but it is useful to note here that one of them, Ilango Muttarayar (alias Uttamadāni), had the distinction of using his own regnal years independently for nearly seven years. The dynasty extends almost up to the early years of Nṛpatuṅga, in whose seventh year (*c.* A.D. 866) a record at Narttamalai is associated with Paliyili Sirianangai and her husband Mallan Anantan. It is these who appear to have been superseded by Āditya I, as suggested by a record of his fifteenth year (*c.* A.D. 886) at Aivarkoil, Kodumbalur, which refers to this lady or perhaps her daughter as the donor.

From the classic Kodumbalur Muvarkoil record of Budi Vikramakesari — the most illustrious Irukkuveḷ king — the rise of the Irukkuveḷs appears to have been coeval with the Pāṇḍya Rājasiṁha I in the first half of the

eighth century; and the Irukkuveḷs appear to have continued up to the rise of the Vijayālaya line in Āditya's reign to which Budi Vikramakesari would belong. They retained their independent status thus far, and from the last quarter of the ninth century appear to have got closely affiliated and subservient to the Coḷas. This status continued for another seventy-five years at least, through the sons of Budi Vikramakesari, Parāntaka and Āditya, and ended with a Siriya Velar, a son of Parāntaka's, who served Sundara Coḷa as the chief of his armies and lost his life in the Ceylonese campaign.

As for the Coḷas themselves, we know little about them before Vijayālaya, although the earliest Karikāla line must have diffused itself over many tracts and lived on in small dynasties. To one such continuing in the parent Coḷa country, perhaps, belong the names Coḷa Mahārāja Kumārāṅkuśa etc. which occur in Nandivarman III's Velurpalayam copper plates dated in his sixth year (*c.* A.D. 841). Since we have Samarābhirāma, the father of Budi Vikramakesari, marrying a Coḷa princess Anupamā, and another called Arindigai, daughter of Ilango Muttarayar which is also a Coḷa name — we seem to be near this Kumārāṅkuśa in time in these two cases. Vijayālaya, despite his early efforts, could not have ruled for more than four or five years and it was really his son Āditya I (A.D. 871-902) who increased the Coḷa empire to a considerable size, followed in this more spectacularly by his son Parāntaka. Inscriptions provide many synchronisms of these various kings Pāṇḍya, Muttarayar, Irukkuveḷ, Pallava and Coḷa, but the balance of power in the period between A.D. 700 and A.D. 900 essentially rested in the hands of the Pallavas and Pāṇḍyas, with the Gaṅgas energetic on the side and sometimes employing their weight to tilt the balance now to one side, now to another.

Inspiration for the structural temples in stone cannot have come from the Deccan, since there the tradition for cave temples, monoliths and structural temples, was deep-rooted in the soft stone medium — the Deccan trap, schist or sandstone. We must seek it in lower Tamil Nad itself. It will help our enquiry if we consider the monarchies that contended here for temporal dominance and cultural propagation. In the opening decades of the ninth century A.D., the Pāṇḍyas were, doubtless, the most outstanding southern dynasty in Tamil Nad. There were also the Coḷas, the Muttarayars, the Irukkuveḷs, the Atiyamans, the Gaṅgas and the Ceras. From among these we can easily eliminate the Ceras and the Atiyamans: the former, because climate and available materials compelled them to erect gable-roofed temples of wood, tile, stone and stucco; the latter,

because in the century under consideration they had ceased to be important and independent rulers.

The remaining dynasties were no doubt building temples; we have evidence to show that, except for the Coḷas, the material they chose was stone, specially granite. The latter dynasty, which almost till the end of the ninth century, was restricted to the delta country of the Kaveri, could not by any chance have had a stone tradition, restricted as it was by geography to that of brick and stucco. The Muttarayars and Irukkuveḷs were no doubt ruling in tracts where the best granite was found, but the extant evidence does not show that they had started construction in it before the third quarter of the ninth century. There are at least two Irukkuveḷ temples, the Aivarkoil at Kodumbalur, with a superstructure of brick and the socle alone of granite, and another, almost entirely in brick, at Erode. These and many others in stone can, by their style, compactness and other features be dated to the period between mid-ninth century and mid-tenth century. The stone temples are the Muvarkoil group, the many temples on the south bank of the Kaveri near Tiruchirapalli, and the temples of Tirukkattalai, the Mucukundeśvara at Kodumbalur and others. The temples of the Gaṅgas of the Koṅgu country which had apparently been influenced by the western peripheral tradition outside Tamil Nad, in the Bāṇa, Vaiḍumba-Noḷamba tracts, became important for the Tamil country only in the early tenth century; even there the prevailing practice was to erect temples either wholly in granite or with the ground floor in granite and the upper storeys in brick and stucco. The Gaṅgas' extant temples are of a medium to a reasonably large size; it is unlikely, considering their elaborateness and style, that they are incipient examples. As they must have been preceded by less imposing specimens, perhaps entirely of stone, we can place them in the mid-ninth century.

The Gaṅga-Muttarayar-Irukkuveḷ-Pāṇḍya tract thus had the best scope for initiating the earliest structural temples in stone. We shall see that the Pāṇḍyas had clearly an edge over the other dynasties because of (a) their admitted mastery in the stone-cutting tradition acquired by nearly a hundred years of excavation of over fifty cave temples and a monolithic free-standing temple at Kalugumalai, and (b) their having been the most dominant political power, which at one time or another had the Muttarayars, the Irukkuveḷs, and the Gaṅgas under their influence or in subjection. We must also remember that the examples of the simplest and hence earliest granite temples are found in the north Pāṇḍya country

which overlaps the Muttarayar tract.[1] The Coḷas never really possessed the plateau country (with its granite outcrops) until the end of the ninth century at the earliest. It would thus be unrealistic to consider these small early temples in granite as early Coḷa as has been the practice until recently. It is hence right to claim for them a Pāṇḍya or Muttarayar authorship. Even the earliest medium to large-sized temples in granite of non-Coḷa origin fall in the territories that were outside Coḷa control and within the jurisdiction of one or the other of the powers mentioned above.

Besides, the iconographic features and layout of these early temples were already anticipated in some of the early caves of the Pāṇḍyas. But Coḷa art or effective political suzerainty were not heard of before the third quarter of the ninth century, and attained consummation only from the time of Parāntaka I. Most, if not all, of the inscriptions of Parāntaka's father, Āditya I (even where they occur on the temple wall), are donations to extant temples, and the few that mention foundations of temples cannot belong to the earlier part of his reign.

It is only from his fifteenth year, around which perhaps the battle of Srīpurambiam was fought (resulting in the great blow to the Pāṇḍya power under Varaguṇa II), that Āditya's political role starts to assert itself effectively. We have no clear picture of his political status and jurisdiction before this time, notwithstanding the records quoted in his regnal years. Even after this we find him campaigning in the northeastern part of Toṇḍaimaṇḍalam from about A.D. 890 to 897 or a little later. This is shown by his inscriptions in his regnal years at Tirumalpuram, Takkolam, Ukkal, Nerkunram, Uttiramerur, Brahmadesam and finally at Tirukkalukkunram, on the east. It appears that he was there engaged in dislodging Aparājita Pallava, whom he had encouraged behind the scenes to subdue the Pāṇḍyas and thus prepare for a Coḷa resurgence. He could not have had the time and opportunity to build temples in granite during or before this period. In fact, the tradition that Āditya was responsible for a string of lofty temples along the banks of the Kaveri, from the Sahyadri to the sea (referred to by Sundara Coḷa of the late

[1] There had also been all-stone temples as well as temples of stone and brick in the Pāṇḍya country in the early period between A.D. 800 and 950. It is of some significance that only the Pāṇḍya country varies its idiom between square *śikhara* temples, mostly in the northern part of its kingdom, and essentially octagonal *śikhara* temples in the southern part, thus giving a new meaning to the classification of temples into Nāgara and Drāviḍa from early times. Circular *śikhara* temples are rare in the Pāṇḍya country.

tenth century in his Anbil plates), is either a eulogistic exaggeration in the usual *praśasti* style or refers to the already extant stone temples that Āditya may have had erected. In fact, even Mahendra Pallava at the close of his reign (A.D. 625) refers (in his Tiruchirapalli upper cave record) to the *aramamala* on the Kaveri banks; thus these temples were already existing brick structures, perhaps enlarged by Āditya I.

On the other hand, we have what are indisputably pre-Āditya structural stone temples in the territory of the Pāṇḍyas, Muttarayars, Irukkuveḷs and Gaṅgas. The Pāṇḍyas were in the vanguard in the use of the patterns of shrine layout, which were carried forward in the early structural period, already in the cave temple stage. The group shrines for Gaṇeśa, Durgā, Sūrya, Kārttikeya, Brahmā, Jyeṣṭhā, Lakṣmī, and Sarasvatī are Pāṇḍya cave temple innovations, and belong to that dynasty's early eight *parivārālayas,* and were in vogue until the close of the ninth century. Simultaneously, the number of shrines was doubled — sixteen *parivārālayas* were erected in Muvarkoil and Kodumbalur; somewhat later, around A.D. 1000, it was doubled again — thirty-two *parivārālayas* and countless subshrines were set up along the *prākāra* cloister, as in the great temple at Thanjavur.

Another important fact to be kept in mind while studying the post-Pallava or early Pāṇḍya devolutions in the Coḷa and Pāṇḍya country is that the process of growth did not take place in isolation. There were active interconnections in various parts of the Tamil country and a certain inherent unity in the development. In such a situation, it would perhaps be a shade unrealistic to consider the post-Pallava style (or what used to be previously called the early Coḷa) as a new force or modification of the old Pallava spirit, as was suggested by Percy Brown. For, it can be demonstrated that except for certain variations in layout and elevational profile, the developments that took place in the Coḷa, Pāṇḍya and Muttarayar country are, in effect, the logical extensions of concepts inherent in earlier Pallava attempts. To that extent regional variations alone can be taken as valid, and the main story of architectural formulations goes forward with a remarkable degree of continuity.

What, then was the character of these apparently new political elements? There is, to begin with, no real transition from the Pallava to other works; the later Pallavas were a spent force in the last quarter of the ninth century; their declining prestige affected their models too, which suffered eclipse in that century's latter half. Then suddenly, there was not only an abrupt change in form, but also in size. The reasons for this are, first, that

regional forces began to assert themselves; second, that patronage began to shift from cave temples to structural ones. It is reasonable to suppose that the cave phase ended with the Pallavas around A.D. 725, and that for nearly a century and a quarter afterward they busied themselves with structural creations. In the case of other dynasties, however, whether politically subordinate to the Pallavas or not, the cave style went on almost up to the end of the eighth century, perhaps for even a decade or two more. However, side by side with these cave temples, structural brick temples of small size could have been erected everywhere. But the southern dynasties had no easy access to the material favored by the Pallavas — sandstone; this they found frustrating, as they felt they needed that material to express their creative urges to the full.

Thus, in cave temple style, in hard granite, they remained for some time architecturally backward (though not iconographically so), but in structures in perishable media they must have witnessed very coherent developments. This is seen at many places in vestiges and is suggested by some of the earliest *āgamas* which deal with such ritual models. The situation was thus one in which the cave temple style and the structural (brick and stucco) style were together making positive advancements in architecturally satisfying models built entirely of stone.

This state of affairs was ended by the Pāṇḍyas, who first carved out the monolith at Kalugumalai and then constructed structural temples in both stone and brick or entirely in stone, for about fifty years afterwards, as at Ukkirankottai, Koilpatti, Tiruppattur, Tenur, Enadi, Panangudi, Valisvaram, Tirukkurungudi, Gangaikondan and Sivalapperi. The Muttarayars — themselves engaged in cave temple enterprises up to the opening decades of the ninth century, and (in some stray examples) even up the middle of that century — continued Pāṇḍya enterprise by erecting interesting structural temples both large and small by the late ninth century. They initially appear to have confined themselves to a structural ground *tala* and a stucco *śikhara*, or to cave temples with added structural *maṇḍapas*. But they later erected complicated stone temples, well before the advent of the Vijayālaya line of the Coḷas.

A cross reference of various epigraphical, historical and architectural data leads us to the inescapable conclusion that the so-called Vijayālaya-coḷīśvaram temple was erected by Ilango Adirayar (as found in the foundation record of the temple) who preceded Vijayālaya and thus Āditya I; the structure was renovated — thus acquiring its present form — by a person who appears to have been of a generation following Ilango's and a

contemporary of the latter's son Sattam Paliyili. In this case again he must have lived prior to Vijayālaya's reign, as the Paliyilīśvaram record — dated in the seventh year of Nṛpatuṅga (A.D. 866) — and other local inscriptions at Narttamalai seem to suggest.

In a similar way, we find that the other local dynasty, the Irukkuveḷs (ruling from Kodumbalur), had also started building structural temples, initially on the Pallava model, but with a stone ground *tala* and a brick-and-stucco superstructure, as in the Aivarkoil — which belongs to the opening decades of the ninth century. After this period rose the dynasty's most powerful king, Budi Vikramakesari — the builder of the Muvarkoil temples of Kodumbalur — who gave currency to a style close to the Pāṇḍya, and which had a predilection for a square *śikhara* (as against a circular one fostered mostly by the Muttarayars). For many years this style was carried on, even in the western Coḷa country, by the successors of Budi Vikramakesari (like his son Budi Parāntaka) owing to its similarity, in addition to its Pāṇḍya nexus, with that of the western Gaṅga country. No Pallava temple worth the name was built after the third quarter of the ninth century, whatever one may think of the few ruined temples in the North Arcot District and in the environs of Kanchipuram.

The Irukkuveḷs, Muttarayars, Coḷas, Pallavas and Pāṇḍyas sometimes intermarried; their workmen freely borrowed from one another, although led by conventional usages and predilections to adhere to certain individual models. Their buildings show variations in ground plan, socle moldings, elevational profile, nature of corbel, *valabhī*, cornice features, niche figures, *śikhara* forms, and layout unit; there is also a distinctive local character in their methods of stone cutting and the finish and dimensions of their work.

It thus appears that a substantial part of what transpired after the early Coḷas became the masters of the Tamil country whether from the close of the ninth century or (even more convincingly) half a century afterwards (at all events only after the battle of Śrīpurambiam) comprised the Muttarayar-Irukkuveḷ matrix of architecture unconsciously adopted by the Coḷa patrons, royal or lay. The true Coḷa stone structural temples came up in a big way only from the time of Sembian Mahādevī, the dowager of Gaṇḍarāditya, when in the Coḷa delta country — where stone was scarce and stone technique outlandish — brick temples were almost overnight replaced by those in stone, and old inscriptions were carefully recopied and bodily refixed to the new structures' stone veneers. The period of Parāntaka I (A.D. 907-55) was too occupied with costly

wars with the Pāṇḍyas and their Ceylonese allies, so that most of the inscriptions of this period are of a narrative nature, fixed on the walls of the temples which had been built in a style fashioned after that of the Muttarayar-Irukkuveḷ matrix and which probably had already been erected well before the time of Parāntaka.[2]

Thus, we might do well to disabuse our minds of certain preconceived

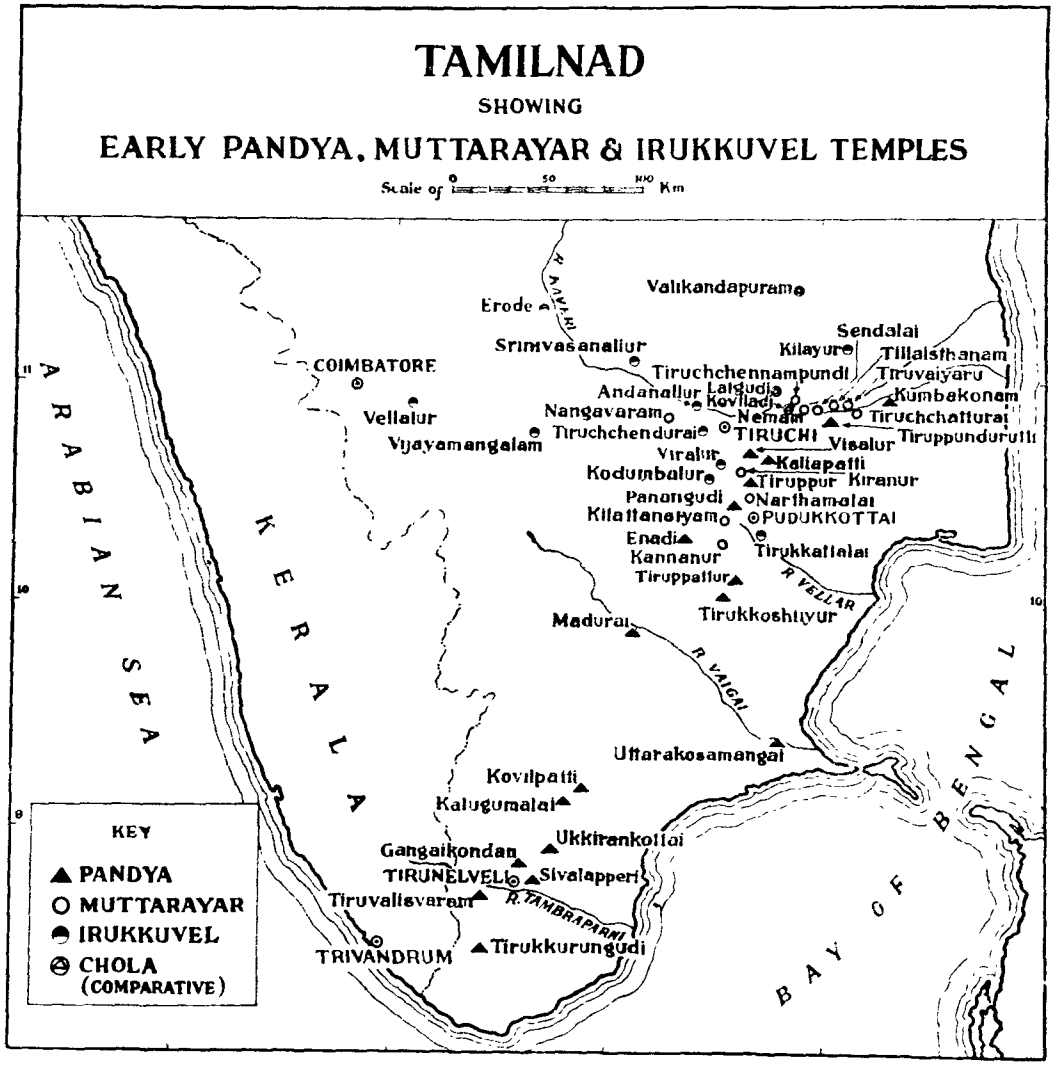

Fig. n. Courtesy: Archaelogical Survey of India

2. A "karrali-piccan" is mentioned and directly associated with many stone temples constructed during the reign of Parāntaka.

notions, such as that all temples containing Coḷa grant or endowment inscriptions and found in the Coḷa country should *ipso facto* be Coḷa foundations; that where the earlier inscriptions are of the Pāṇḍyas or Pallavas and later ones alone of Coḷa authorship, we should tread particularly cautiously. We should, in other words, rid ourselves of Coḷa bias in tracing the authorship of Tamil Nad's earliest structural stone temples.

With the decks thus cleared, we may now take up for consideration the temples of the early Pāṇḍya, Muttarayar and Irukkuveḷ kings (Fig. n). Pāṇḍya temples are at Enadi, Panangudi, Kaliyapatti, Tiruppur, Lalgudi, Tiruppattur, Kovilpatti, Kumbakonam, Ukkirankottai, Valisvaram, Visalur and many other sites in the lower Pāṇḍya country not yet fully explored. The temples of the Muttarayar dynasty are found at Viralur, Kannanur, Kiranur, Kilattanaiyam, Niyamam, Sendalai, Narttamalai and Nangavaram; and those of the Irukkuveḷs at Kodumbalur, Tiruchchendurai, Andanallur, Kilaiyur and Tirukkattalai. When we have examined all these, we shall be in a position to treat the peripheral enterprises under the Gaṅgas, Vaidumbas, Bāṇas and Noḷambas at Kambadahalli, Narasamangala, Sravanabelgola, Kalakada, Attirala, Gudimallam, Nandi and Hemavati, which would form a group cognate with that of south Tamil Nad in many respects. All these monuments constitute the many-splendored heritage on which Coḷa craftsmen drew when erecting temples in their own territory and outside, particularly after A.D. 950.

III. MODELS AND NEXUS

With Kalugumalai as the starting point, let us first arrange the distribution of the temples — whether Pāṇḍya, Muttarayar or Irukkuveḷ which belong to the succeeding centuries or stages. There are no great obstacles in placing the Kalugumalai Vettuvankoil monolith (Pl. 127) before A.D. 800. On account of the octagonal *śikhara,* so characteristic of most of the extant temples of the early structural style in the southern Pāṇḍya country, this temple is certainly the oldest in the series. This feature also affiliates it to the earliest group of Pallava temples of the structural kind with octagonal *śikharas* as at Mahabalipuram and Kanchipuram, ending with Tiruppattur (Tiruchirapalli District), belonging to the close of Nandivarman II Pallavamalla's reign (A.D. 731-96). From now on, the circular *śikhara* becomes the Pallava norm, although the preference in the western peripheral Pallava tract in Chittoor-North Arcot District is for the octagonal *śikhara* — and continues to be to the mid-ninth century.

In the northern Pāṇḍya country, the square *śikhara* becomes almost fixed, probably due to the Cāḷukya-Gaṅga nexus, and the circular *śikhara* is all but absent. In the southern Pāṇḍya country, however, the octoganal form becomes deep-rooted and occurs both in stone as well as in stone-and-brick structural examples — from about the time of the Kalugumalai temple to the close of the ninth century A.D., as at Tirukkurungudi and Tiruvalisvaram. Possibly because the Pallavas were their nominal overlords, the Muttarayars adopted the former's circular *śikharas*, while the *śikharas* in the Irukkuveḷ tract, as those of the northern Pāṇḍya country, are always of a square plan.

The superstructure rises to *dvitala* at Kalugumalai, and it is more than likely that in structural architecture this *dvitala* mode was already in existence in the south Tamil country. However, the fact to be noted here is that in a structural temple, the upper storey was often of brick and stucco, and only the ground *tala* up to the *hāra* was in stone (granite); or, when the temples were entirely of granite, they were mostly of *ekatala* stature. It will be immediately perceived that this is why we have so many *ekatala* stone structural temples, often of the *parivāra* class, while the stone *dvitala* and *tritala* temples are somewhat rare till the third quarter of the ninth century.

It is not difficult to find even *tritala* temples with superstructures almost wholly of brick and stucco being erected by the Vaiṣṇavas in the reign of Nandivarman II (for instance the Vaikuṇṭhaperumāḷ temple at Kanchipuram), and in stone and brick (*cf.* the Sundaravaradarājaperumāḷ temple at Uttiramerur). In provincial areas, the difficulty of getting rich enough patrons for large sized temples was perhaps overcome by using brick and stucco for the superstructure. Of course, it is also true that the Āgama prescriptions for the use of brick temples to enshrine stucco or wood images would in early times have led to the adoption of brick (in everything but the socle) — a practice which persisted for a long time afterwards, and was followed in the Uttiramerur temple just mentioned. This edifice, founded in approximately the tenth year of Dantivarman, contained only wooden images of Gods; only the socle of its *tritala* shrine is in stone.

To this period and stage, in the Muttarayar-Irukkuveḷ tract, belongs the Aivarkoil; its stone socle (Pl. 130) — which is all that remains of it — is much like that of the Uttiramerur temple, with its lateral flights of steps for the plinth corner shrines. The Aivarkoil's wall and superstructure may have been of brick alone; the presence of the *bhūtavalabhī* stones in the front part of the temple causes no difficulty, but only indicates that the original

unit was restricted to the temple's innermost *vimāna,* details about which will be given later.

The Aivarkoil, called Aintali in the inscriptions — perhaps because the central shrine and the four subsidiary shrines in the corners together formed a group of five — should be placed in the first quarter of the ninth century, when Dantivarman's writ ran in the Muttarayar-Irukkuveḷ tract (as we gather from two of his inscriptions, of the fifth and sixteenth years of his reign, in the cave temples at Kunnandarkoil and Malayadipatti respectively).

The inscriptions in the Aivarkoil itself are somewhat later, from the time of Āditya I (fifteenth year, A.D. 886), and mention the Muttarayar lady Nangaiyar Anantan Paliyili of Urathurkurram, who either is the same Paliyili Sirianangai of the Narttamalai record in the Paliyiliśvaram cave *maṇḍapa,* or is her daughter. Among the more interesting features of these temple remains are the square *liṅgapīṭha* in the main shrine and the sub-shrine, the character of the socle moldings, and the seemingly circular and *sāndhāra* sanctum wall. It is a fitting predecessor as a stone and brick shrine, to the so-called Vijayālayacoḷīśvaram temple, which is all of stone and also circular in section from the sanctum to the *stūpī.* The Aivarkoil temple, perhaps the first important monument of the Irukkuveḷs at their capital Kodumbalur, is of a time when they had direct matrimonial ties with the Muttarayars.

If we examine the architecture and inscriptions of both the central Coḷa country and the Muttarayar-Irukkuveḷ region to its west and along and to the south of the Kaveri, we discover some very significant developments. We must bear in mind that when the Coḷa country was under the effective control of the Pallavas, it was virtually administered through the Muttarayars — at least the upper part of the delta — for at least a decade from about the close of Nandivarman III's reign. Other evidence shows that for the period comprising the latter half of the ninth century and some time after, the above-mentioned tract between the tenth and eleventh parallels witnessed no spectacular Coḷa cultural enterprises.

Contrariwise, many temples of the Muttarayars and Irukkuveḷs on the western flank in the contiguous areas have been recorded. The disposition of the temple forms itself is eloquent evidence of their structural or stylistic affiliations, since the Muttarayar temples are found to be almost invariably of the circular *śikhara* type — a mode duly copied by the Coḷas in their *ekatala* temples as well, as is but natural owing to their locally-rooted traditions. For the zone's single or double-storeyed temples

which have square (or rarely) octagonal *śikharas* we must obviously look elsewhere for inspiration — if not for authorship — since they seemingly do not fit in with the local milieu. The internal architectural details certainly help us in a classification of their stylistic relations to a great extent.

We are left with the impression that the Pāṇḍya-Irukkuveḷ influence is clearly suggested in these latter temples, of square *śikhara* preference, and the inscriptions confirm this. Some scholars assume, without any basis, that the inclinations of the patron of a temple are subservient to the style his overlord might have followed, and whose regnal year he may be quoting only as a political arrangement. This is not valid, particularly in the formative stages of structural stone architecture. It therefore seems advisable that we should rather examine the various archetypes of the temple formulations on their own merits, fix their original locale and authorship, and proceed to investigate their application outside their parent zones. We shall then be able to have a clearer picture of the architecture in relation to the raw materials employed and to its style, motivation and genesis.

We have at first sight to admit a degree of free movement of various architectural forms in the different parts of the region under reference. Of course, the general lack of rock material in the delta country is one important argument against the independent early origin of Coḷa stone architecture. Research shows that in the Muttarayar-Irukkuveḷ zone, before the Coḷas came to power, there were at least seven archetypes, which are listed below, each typified by a representative monument.

Starting from the smallest-sized ones, we have:

I (a) The small stone structural temples found at Panangudi, Kaliyapatti (Pl. 135), Visalur (Pl. 136), Tiruppur and Enadi (Pl. 137). Some of these are of the *aṣṭaparivāra* unit type. All of them are of the Pāṇḍya group, have square *śikharas*, and may be called the Panangudi type.

(b) *Ekatala*, stone, *parivāra* type of shrine of Muttarayar construction. These are rather rare but are the handiwork of Ko-Ilango Muttarayar alias Uttamadāni. The type site is Kilattanaiyam (Pl. 146), and among other bigger temples are those at Tiruchchatturai and Tiruchchennampundi (Pl. 141).

II The small stone structural temples with a circular or octagonal *grīvā* and *śikhara*, as at Viralur (Pl. 144), Kannanur (Pl. 145), Tiruppundurutti etc. They may or may not possess an *aṣṭaparivāra*

layout, and display on the socle *upāna, jagatī, tripaṭṭa-kumuda, kaṇṭha, paṭṭikā, prati,* and sometimes *vedī.* The Tiruppundurutti temple at present has a circular *śikhara* which is however, at odds with the octagonal *vedī* and *grīvā.* These are essentially early Muttarayar types under Pallava and Pāṇḍya influence. The type site is Viralur.

III (a) *Ekatala* temples with a stone ground *tala* and brick superstructure over the entablature. The *śikhara* may be square or round, and the plinth moldings show *upāna, jagatī, vṛtta kumuda* and *vyālavari.* This type is represented by the Kiranur temple where, however, the present circular *śikhara* is clearly later. The original might have been square, particularly since its builder, Uttamadāni Ko-Ilango Muttarayar, varied the usual circular *śikharas* with square ones.

(b) *Ekatala* temples of mixed stone and brick, with circular *śikharas* alone, the socle moldings consisting of *upāna,* high *padma* (instead of *jagatī*), *vṛtta kumuda, vyālavari* on *kaṇṭha* and *prati.* There are both unitary and *aṣṭaparivāra* examples. In all these cases, the *praṇāla* is in the *upāna,* indicative of the brick originals. Coḷa stone workmanship has a very strong Irukkuveḷ influence. The examples are Lalgudi, Valikandapuram and Kuhur. The type site is Lalgudi, which is apparently a Coḷa reconstruction in the Irukkuveḷ style.

IV (a) *Dvitala* and *tritala* with circular *śikhara,* made entirely of stone and with free-standing *parivāra* shrines. The examples are Nangavaram (Pl. 151) for the *dvitala* and the Vijayālayacoḷīśvaram for the *tritala.* The socle has *upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *prati.* The constructions are distinctively Muttarayar, and are some of the earliest of the region and style.

(b) *Dvitala* temples of mixed stone and brick workmanship, with a circular *grīvā* and *śikhara* and with a straight socle layout, its moldings showing *upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *prati.* Of the *aṣṭaparivāra* type, they possess schematic rafter projections in place of the *vyālavari.* They are Muttarayar and mostly found in the delta country. The type site is Sendalai (Pl. 148). Another example is at Nemam (Pl. 149), and a variant at Tiruvaiyaru has *kūṭas* on the corners of the top (second) *tala.* The present circular *śikhara* is perhaps a modern replacement of the original square *śikhara.* Pāṇḍya influence is also present.

(c) *Dvitala vimānas* with socle as in (a) above and with a square

śikhara. The sites are Tillaisthanam, Kumbakonam (the Nāgeśvara), Tiruchchatturai, Tiruchchennampundi (Pl. 141), etc. The Kumbakonam temple has a *śukanāsa* on the *ardhamaṇḍapa* roof, attesting to Cāḷukya-Pāṇḍya influence.

(d) *Tritala* temples, all of stone, with socle moldings showing high *padma, vṛtta kumuda, vyālavari* on *kaṇṭha* and *prati,* and with a square *śikhara*. The *praṇāla* is on the *kaṇṭha*. This is the basic Irukkuveḷ pattern in their own region. A good example is the well known Muvarkoil at Kodumbalur (Pl. 138), showing at least two of the three main shrines, though none of the sixteen *parivāra* shrines is complete. It served as the model for the Agastīśvaram and Coḷīśvaram temples at Kilaiyur (Type IV e) and for the socle forms seen in Type III b. It was itself perhaps inspired by the Pallava temples of Rājasiṁha as at Panamalai, and the Shore Temple and the Olakkaneśvara at Mahabalipuram, though none of these has a *vyālavari* on the *kaṇṭha*.

(e) *Dvitala* temples, all of stone, with a socle showing high *padma* instead of *jagatī* (as in III b), *vṛtta kumuda* and *vyālavari* on the *kaṇṭha* and *prati*. These are basically of Irukkuveḷ extraction in their style of layout, socle, wall, type of *hāra* (where the *bhadraśālā* is reared on its own *pāda* which is correspondingly not available to the *kūṭas*, making the *śālās* soar higher). The square *śikhara* is found at Agastīśvaram temple, Kilaiyur (Pl. 139), which is clearly erected with Irukkuveḷ know-how in the early part of Āditya's reign. The Coḷīśvaram (or Aruṇācaleśvara) should have been built around the twenty-second year of Āditya I and the *prākāra* and subshrines soon after.

(f) *Dvitala* temples, all of stone, and with a square *śikhara,* of the *aṣṭaparivāra* type where the subshrines are made to abut on the *prākāra* wall, as enjoined in the *āgamas*. The socle moldings are similar to IV(b) and (c) above. The *praṇāla* is on the *paṭṭikā* since the temples are not converted from brick but were originally constructed in stone. The examples are Tirukkattalai (Pl. 142), Tiruchchendurai (Pl. 140), and the Kodumbalur Mucukundeśvaram (Pl. 143), which is also the type site. These are undoubted Irukkuveḷ foundations, and date essentially from the opening decades to the third quarter of the tenth century. These show a change of socle forms over their ninth century precursors, namely III(b), IV(d) and (e).

A variant found at Andanallur with a superstructure mainly in brick and sporting a circular *śikhara* should really be taken, on the internal evidence of its architecture and inscriptions, as not only an Irukkuveḷ foundation but also as having originally had an all-stone superstructure with a square *śikhara*. It is thus to be taken as integral with this type.

(g) *Dvitala,* mixed stone and brick, with the socle of straight *māna-sūtra* lines, moldings showing *upāna, jagatī, vṛtta kumuda, vyālavari* on *kaṇṭha* and *prati* and with square *grīvā* and *śikhara*. Its general resemblance in analogues should be with Type III(a) at Kiranur. It is pre-Coḷa in any case. The type site is Srinivasanallur, which is on the border between the traditional Gaṅga and Coḷa country. The style is a *via media* between conventional Muttarayar and Irukkuveḷ socle forms, a usage applied also at Tirukkattuppalli in the local Agnīśvara temple, which was perhaps a Muttarayar foundation.

There are no *catuṣtala* temples among the Muttarayar and Irukkuveḷ regions, and also, comparatively, of the Coḷas between A.D. 800-925.

This unprecedented differentiation in stylistic range shows the great vigor of temple building activity in the early eighth and the ninth centuries. It also shows that the integrity of a sub-style has a relationship not with the temporal status of the dynasty or region promoting or initiating it, but with the availability of raw materials — the context for the creation of temples by stimulus and model alike having been present in neighboring areas used to stone architecture.

I shall now relate the multiple styles of this area between the tenth and eleventh parallels — open to the cultural impact of the Pallava, Pāṇḍya and Gaṅga regions on its periphery — with the individual and well defined regional styles of the Pāṇḍyas found in the area between the eighth and tenth parallels. Apart from the special types of Viṣṇu temples, already mentioned, belonging to the first half of the ninth century, we have Tirukkurungudi, Tiruppattur, Ukkirankottai, Sivalapperi, Gangaikondan, Kovilpatti, Uttarakosamangai, Valisvaram, etc. Of these, we have indeed two major notable variations, if we ignore some subtle differentiations. The first of these is exemplified in monuments in the northern Pāṇḍya country — particularly in the area which comprises a large part of Madurai and Ramanathapuram districts — which show only a square *grīvā* and *śikhara* over their temples; the second, in those of the southern Pāṇḍya

country (in a large part of the Tirunelveli district and its environs), which consistently show an octagonal *grīvā* and *śikhara* in the earlier temples.

The stylistic dichotomy in the Pāṇḍya kingdom becomes very significant when we compare Pāṇḍya achievement with that of the early Cāḷukya and early Pallava, and needs careful study. The Tiruppattur temple, Kovilpatti, and Ukkirankottai, have all yielded Saḍayamāṟan's inscriptions — obviously referrable to Śrī Māṟa Śrī Vallabha by their context and not to Māṟavarman II Rājasiṁha of the tenth century. All the same, these are of varying times, distributed over the second half of the ninth century, and even the early tenth century, owing to the fact that some of these temples had been rebuilt or renovated.

Tiruppattur is undoubtedly the most substantial and fully preserved early Pāṇḍya temple of more than medium size (Pl. 131), and is indeed a landmark in the northern Pāṇḍya country. It is *dvitala,* with a square *śikhara,* with the socle moldings having *jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *vedī.* Two unique features of the temple are (a) the presence of *kūṭa* alone on the top *tala* corners with two *nandis* on each face of the *gṛhapiṇḍī* — an element which is present in many Pāṇḍya temples and over a long span of time; and (b) the provision of *makara toraṇas* over pilasters on the door flanks at the entrance of the front *maṇḍapa* and the *garbhagṛha* of the inner original temple unit. It is a stone temple going by the name Taliśvara or Talinātha (*tali,* temple). As it now stands, the Kovilpatti temple (known as the Puvaneśvara) despite its conformity to the general Pāṇḍya style, was renovated above the socle during early medieval times, perhaps around the twelfth — thirteenth centuries (Pl. 132). But the intact socle moldings strikingly recall those found in many Pāṇḍya cave and structural temples and, on the structural analogy outside, in the Sendalai temple of the Muttarayars (Pl. 148), and thus forge a link between Pāṇḍya and Muttarayar architecture. The moldings show *jagatī, tripaṭṭa kumuda,* and schematic rafter projections on the *kaṇṭha,* in place of *vyālavari.* The contemporaneity of these two temple forms (perhaps of Ilango-Muttarayar's and Śrī Māṟa Śrī Vallabha's time respectively) is well sustained in this way. The superstructure is *dvitala* with a square *śikhara.*

Inside the old mud fort and village at Ukkirankottai, we have again two types. The Cokkaliṅga temple, containing a record of Saḍayamāṟan, has been very badly renovated and changed into a plain structure, but has medium-sized *ekatala* shrine with a square *śikhara.* It is just possible that the original shrine may also have had only the ground *tala* in stone but the *grīvā* and *śikhara* in stucco. Its original iconographic materials are

strewn within its premises, and suggest a plausible link with some of the sculptures at Kodumbalur, thus perhaps of the time between A.D. 875 and 925.

In the other small temple at Ukkirankottai outside the fort on the northern side we have almost the prototype of Type I, described earlier, for the tenth-eleventh parallel. This site has not only been partially damaged and crudely renovated in recent centuries, but has also lost the entire set of *parivāra* subshrines. The central shrine goes by the name of Vaḍavāyilamarndāl temple in the early inscription, which perhaps refers to the Durgā subshrine in this original *parivāra* complex. Almost all the early and diminutive sculptures of all the *parivāra* shrines of the old setup are strewn around the temple. The central shrine is of the same size as those of Type I above, and *ekatala*. Its socle is almost completely buried but may also conform to Type I. The door jamb carries an inscription of Saḍayamāṟan.

The Vālīśvara temple (Pl. 129) is a veritable gem of Pāṇḍya architecture of the pristine Drāviḍa class and is a *dvitala* temple with an octagonal *śikhara*. In the tidiness of its structural assemblage, its elevational proportions, distinctive *śikhara,* subdued but gracious embellishment of artistic motifs and rich and varied iconography, it is a creditable successor to the unfortunately incomplete monolith of the same style at Kalugumalai. The intermediate stages between these two monuments are apparently represented by a host of temples, notably those at Sivalapperi (Viṣṇu shrine) and Gangaikondan (Śiva shrine) with their stone ground floor and brick superstructure, a *hāra* continued up to the top and an octagonal *grīvā* and *śikhara*. An early variant in *ekatala* form is at Ambasamudram in the Erichchaudayar shrine within a medieval temple, which from its beautiful stone-built ground *tala* and its inscriptions may be ascribed to the time of Varaguṇa II. The tower would have been a fine octagon had its form not been converted into a bizarre circular one in modern times.

The Sivalapperi shrine has a unique feature, a *kapota* in the place of *paṭṭikā* on its socle. Evidence for the existence of a less known early stone structural phase is also provided by the solid single-piece granite *śikhara* of octagonal shape, part of an early shrine (now renovated), at Tirukkurugudi (Pl. 128), which is in the best early Pallava or Pāṇḍya style of Kalugumalai. If this part could speak for the whole, we would have a structure which is to be dated around A.D. 800. Notwithstanding the occurrence of only Coḷa inscriptions from the time of Parāntaka on its walls, it is clear that the temple at Tiruvalisvaram undoubtedly belongs to the

mid to late-ninth century. Its socle moldings combine the *jagatī* and *tripaṭṭa kumuda* with the *vyālavari,* and its original layout was perhaps that of an *aṣṭaparivāra* type.

Thus, along with the Kailāsanātha and Vaikuṇṭhaperumāḷ at Kanchi (not to mention the monoliths of the Kailāsa of Ellora and the Vettuvankoil of Kalagumalai), this and the other octagonal *śikhara* types of south Pāṇḍya areas are true Drāviḍa *vimāna* structures which conform to textual specifications. The remaining important type occurring at Uttarakosamangai (Pl. 133), within the Maṅgalanātha temple premises, close to the Naṭarāja shrine, is quite unlike most of the other Pāṇḍya temples noted, but is closer to the tradition represented by the Viṣṇu temples at Madurai, Tirukkostiyur etc. It has a solid ground floor over which the first floor forms the real *sāndhāra* shrine, which is reached by double built-up stairways attached to the front at either end, a central projection also being solid on the ground floor and having a *nandimaṇḍapa* above. The upper shrine has a simple cella chamber with a sculpture of Umā-Maheśvara in the round (which also gives the temple its other name) and a front *maṇḍapa* for Nandi. This front *maṇḍapa* itself also serves as the *śukanāsa* complete with the wagon shape and a large *nāsikā kūḍu* in front. This is clearly a Cāḷukya importation. The superstructure rises in *trītala* above this. The exterior walls show the socle at the base of the solid ground floor and pilastered projections and recessions along the straight strike of the walls.

This temple is analogous to the Candraprabha temple at Tirupparuttikunram (or Jina Kanchi, outside Kanchipuram) in the Pallava country, the Puṇḍarīkākṣa temple at Tiruvellarai near Tiruchirapalli and the Vaṭapatraśāyin shrine at Srivilliputtur (where, however, the basement is hollow). Uttarakosamangai adapted this popular model for its temple, and, on the basis of its features, may be placed in the late ninth century A.D. It emphasizes the versatility of the local craftsmen in receiving and assimilating extraneous structural models.

To recapitulate: it seems that three main trends prevailed in the areas from the tip of the peninsula to the eleventh parallel. These trends are exemplified (a) by the structures which had only the ground *tala* of stone and upper floors of single or multiple *talas* in brick and stucco. They were common to the Pallavas, the Muttarayars, the Irukkuveḷs, the Pāṇḍyas and the Coḷas; (b) by the circular *śikhara* temples either in stone or also in brick and stucco, started by the Pallavas and later absorbed by the Muttarayars and Coḷas alone. Correspondingly almost all the square *śikhara* types are to be classified as Pāṇḍya or Irukkuveḷ (or early Gaṅga), and if

octagonal, almost exclusively to be attributed to Pāṇḍya influence, unless they are too far north, too early, and otherwise directly have the Pallava nexus; (c) by the *parivāra* types which, whether *aṣṭaparivāra* or *ṣoḍaśaparivāra,* were of individual, free-standing subshrine groups in early (and pre-*Āgama*) stages, and later becomes a series of subshrines. These *parivāra* shrines are common to *eka, dvi,* or *tritala* main shrines, of the square as well as the circular types.

Finally, nothing politically or culturally prevented the erection of Pāṇḍya, Irukkuveḷ, Muttarayar or Gaṅga foundations in the Coḷa country — central or peripheral — whereas it is extremely improbable that Coḷa temples were set up in other regions, at least before A.D. 900. The socle features collectively involve elements which had become the common pool of the Pallava-Pāṇḍya styles, and no new or outlandish trend is noticed. Cāḷukya architectural influence is meagre, except for the occurrence of the *śukanāsa* features in some of the temples in this zone, as well as in those of the neighboring Gaṅga area. But in art and iconography, a pervasive influence is felt: almost all Pāṇḍya temples, for instance, have only a square *līngapīṭha* and never a circular one.

IV. ARCHITECTURAL ELEMENTS: NOTES ON TEMPLES

In the following pages, I shall attempt to set forth in a readily assimilable form the component elements of individual temples which form the source material for our architectural formulations, and to list them broadly in a chronological sequence. But since we are dealing here with three major experiments in the Pāṇḍya, Muttarayar and Irukkuveḷ tracts, (not to mention those of the Coḷas, who had varied but ready-made models for imitation and inspiration), a more close chronological arrangement of the temples is out of the question.

A schematic arrangement of the component elements of the temples is given below: in the discussion of individual temples I shall refer to these by their numbers as indicated below:

1. Name of the temple
2. Mode of erection
3. Number of *talas*
4. Details of
   (a) *adhiṣṭhāna*
   (b) *pāda*
   (c) *prastara*

(d) *grīvā* and *śikhara*
5. Disposition of the *vimānadevatās*
6. Unitary or *parivāra,* and details
7. Earliest known inscriptions
8. Interior and other details
9. *Praṇāla* feature
10. Other remarks, if any

I. (Pl. 127)

1. Kalugumalai (Vettuvankoil), Tirunelveli District.
2. Monolithic.
3. *Tritala.*
4. (a), (b) Non-existent.
(c) Bold *kapota* with *madhya* and *koṇa paṭṭais,* open *nāsikās.*
(d) *Arpita* type, top *tala* showing bulls, *grīvā* and *śikhara* octagonal. No *stūpī.*
5. Dakṣiṇāmūrti Śiva in the south; Narasiṁha in the west; Brahmā in the north; Umāsahita Śiva in the east.
6. Unitary with *hāra* on the edges of the front *maṇḍapa* roof also.
7. Nil. But the area has records of the time of Māṟañjaḍayan (Varaguṇa I) as well as subsequent rulers.
8. Sanctum with a front or *mukhamaṇḍapa* of lesser dimensions. No rock-cut *liṅgapīṭha* etc.
9. Not extant due to incomplete ground floor excavation.
10. The temple faces east. It is the oldest known temple model extant in the Pāṇḍya country. The place contains also a cave temple for Subrahmaṇya, perhaps of the close of the eighth century.

II (Pl. 134)

1. Saumyanārāyaṇa temple, Tirukkostiyur, Ramanathapuram District.
2. Structural. Originally entirely of brick and stucco except for the ground *tala* socle.
3. *Catuṣtala vimāna.*
4. The ground *tala* is solid and without a shrine except a niche in front carrying a Veṇugopāla shrine, as it is called now. The second, third and fourth *talas* carrying the sancta with reclining, seated

and standing forms of Viṣṇu in stucco. Access to the second *tala* is through a staircase along the side walls, which might perhaps not be an original feature. The socle, wall and entablature are simple due to their being in brick. The *vimāna* is of the *sāndhāra* and *anarpita* type of *hāra* with an octagonal *grīvā* and *śikhara*. It is called *aṣṭānga vimāna* locally.

5. The *vimānadevatās* have become modified over centuries but follow the essential features of Vaiṣṇava temples.
6. Multiple shrine type of the same God in different postures.
7. *South Indian Inscriptions,* Vol. XIV, No. 49. Slab built upside down in the store room: refers to Bhaṭṭār of Peria Śrī Koil.
8. The two lower sancta are rectangular due to the presence of multiple figures. The top one is square with a standing Viṣṇu.
9. Not extant due to the stucco character of the main Gods in shrines.
10. Faces east. Along with the Kudal Alagar, Madurai and the Mannarkoil temple, Ambasamudram, it is a Pāṇḍya model — reflecting the Pallava model at Kanchipuram (Vaikuṇṭha-perumāḷ), but built by Nandivarman II around A.D. 750, and the Sundaravaradarājaperumāḷ temple at Uttiramerur, built probably by Dantivarman around A.D. 810. Its date, in its original fabric, should be around A.D. 775.

III

1. Kudal Alagar temple, Madurai.
2. Structural, with brick and stucco.
3. *Catuṣtala.*
4. The present rich and elaborate external stone fabric of the ground *tala* is a reconstruction of the Vijayanagara period times. The superstructural stucco work has also been modified. The internal dimensions of the temple model, however, have not apparently been unduly expanded. It is a *sāndhāra vimāna* with *anarpita hāras* in each *tala* having three shrines in the different *talas* with the high solid socle forming a basement feature. The Gods in the shrines are reclining, seated and standing respectively. The *śikhara* and *grīvā* are now circular, but might have been circular or octagonal originally.
5. The *vimānadevatās* in the upper *talas* follow the usual Vaiṣṇava

practice and consist of Keśava, Śrīdhara and Narasiṁha, Brahmā, and Hayagrīva or Varāha respectively, from south to east.

6. Multiple shrine type of the same God in different postures.
7. Nil. But the temple has been sung of by Perialvar of Villiputtur and is thus probably of the time of Śrī Māṛa Śrī Vallabha (A.D. 815-62) at the latest. Its original date is perhaps *c.* A.D. 800-25.
8. The first two are rectangular shrines, while the past is square.
9. Not extant due to the stucco character of the Gods in the sanctum.
10. See under II above.

IV (Pl. 133)

1. Umā-Maheśvara temple, near Naṭarāja Sabhā, Uttarakosamangai, Ramanathapuram District.
2. Structural, partly of stone and partly of brick and stucco.
3. *Tritala,* with square *grīvā* and *śikhara.*
4. This is almost like the Viṣṇu temple models described under II and III, but is of the Śaiva cult. It has a ground floor of two *bhūmis,* the lower solid and with *adhiṣṭhāna* moldings, wall, cornice and even the *hāra.* Access to the main sanctum above this is given through inclined and built up staircases from the front up to the second *bhūmi* of the ground *tala* where the *sāndhāra* cella and its *ardhamaṇḍapa* are located. The extant socle moldings are of the *upāna, padma, paṭṭikā* and *vedī* type. It has pilastered plain wall spaces. The *ardhamaṇḍapa* is made externally like the *śukanāsa* with a *mukhapaṭṭī* and *vimāna* model in relief within it having two *kūṭas,* two *śālās* and a central *pañjara,* the parts excepting the *kūṭas* being laid in a *triratha* outline.
5. *Vimānadevatās* are Dakṣiṇāmūrti in the south at all levels; seated Viṣṇu and Narasiṁha in the west at successive levels; standing Durgā and Brahmā in the north; and Indra in the east.
6. Unitary temple.
7. Nil.
8. The main shrine chamber on the upper *tala,* or strictly speaking the upper *bhūmi* of the ground *tala,* is *sāndhāra,* plain square and with an Umā-Maheśvara sculpture in the round on a square *pīṭha* in the center. It has an antechamber, perhaps meant for Nandi.
9. False *praṇāla* in the *upāna* of *bhūmitala,* asymmetrically placed,

with an upper one above it on the second *bhūmī* level. Originally the temple should not have contained any *praṇāla.*

10. Faces east. A rare and early type of its kind in the Pāṇḍya country. Rāṣṭrakūṭa and Cāḷukya influences had apparently been involved in some form.

V (Pl. 153)

1. Śiva temple, Panangudi, Tiruchirapalli District.
2. Structural stone temple.
3. *Ekatala alpavimāna.*
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā and prati.*
   (b) Pilastered wall sections, with slit niches.
   (c) *Bhūtavalabhī,* and circular *kūḍus* in *nāsikās, vyālavari* above.
   (d) Square *vedī, grīvā* and *śikhara.*
5. Brahmā in the north; Dakṣiṇāmūrti in the south; Indra in the east; and Viṣṇu in the west.
6. *Parivāra* group, but no subshrine preserved.
7. Fourteenth year of Parakesari — apparently Parāntaka I, calling the God as Panangudi Parameśvaran.
8. The sanctum is a small chamber, with an *ardhamaṇḍapa* in front as an integral continuation externally of the *vimāna.*
9. *Praṇāla* as a simple projection set in the *paṭṭikā* level.
10. Faces east. It is one of the oldest groups of simple all-stone *vimānas,* of the *parivāra* type — Pāṇḍya in origin, and datable to around A.D. 850.

VI (Pl. 135)

1. Śiva temple, Kaliyapatti, Tiruchirapalli District.
2. All-stone structural temple.
3. *Ekatala alpavimāna.*
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *prati.*
   (b) Plain pilastered division, bevel corbel.
   (c) *Bhūtavalabhī* and circular *kūḍu* in the *nāsikās* of the *kapota; vyālavari* above.
   (d) Square *vedī, grīvā* and *śikhara.*
5. All sculptures are present but out of position. These include Gaṇeśa, Kārttikeya, Durgā, the Saptamātṛkās, Caṇḍeśa,

Jyeṣṭhā and Sūrya. They thus include the Deities of the *parivāra* shrines (intact upto the socle base only) as well as the main *vimānadevatās*.

6. *Aṣṭaparivāra* type with the main shrine having cella and *ardhamaṇḍapa*. The subshrine for the Saptamātṛkās is rectangular. There is a separate *nandimaṇḍapa* in front of the *vimāna*, and a *gopuradvāra* with *prākāra* going around the *vimāna* from the *dvāra*.
7. A record of the eighteenth year of Parakesari, apparently Parāntaka I, of a donatory character.
8. Sanctum as a small chamber floor of the *ardhamaṇḍapa* at the same level on the socle. The whole area of the temple occupies only 54′ x 27′.
9. *Praṇāla* of a simple straight projection laid on the *paṭṭikā* of the *vimāna* socle, on the north side.
10. Faces east. The best preserved and rather unique example of an early *aṣṭaparivāra* structural model complete with *nandimaṇḍapa*, *gopuradvāra* and *prākāra* walls. Its age is perhaps *c.* A.D. 850.

VII

1. Śiva temple, Tiruppur, Tiruchirapalli District.
2. All-stone structural temple.
3. *Ekatala alpavimāna*.
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *prati*.
   (b) Pilastered walls with slit niches on the *ardhamaṇḍapa*, which is slightly narrower than the former, as in the other cases (V-VI above).
   (c) *Bhūtavalabhī*, open *nāsikā, kūḍus* on the *kapota*, and *vyālavari* above.
   (d) Square *vedī, grīvā* and *śikhara* with the flange, as usual; door frame at the *ardhamaṇḍapa* exterior.
5. Brahmā in the north; Daksiṇāmūrti in the south; Viṣṇu in the west.
6. Appears to be unitary but could have been of the *aṣṭaparivāra* type as well, though this is less likely.
7. Nil.
8. *Garbhagṛha* a small chamber without any Liṅga, etc.
9. *Praṇāla* simple and set in the *paṭṭikā*.

10. Faces east. *Śikhara* missing in upper part but the cella-*ardhamaṇḍapa* unit is intact. Its date is perhaps around A.D. 850.

VIII (Pl. 136)

1. Mārgapurīśvara temple, Visalur, Tiruchirapalli District.
2. All-stone structural temple.
3. *Ekatala alpavimāna.*
4. As at Panangudi (V above).
5. Bhikṣāṭanamūrti of Śiva in the north; Dakṣiṇāmūrti in the south; Viṣṇu in the ground *tala.*
6. *Aṣṭaparivāra* type, possessing a Jyeṣṭhā sculpture as well.
7. Parāntaka I's record.
8. Similar to the Panangudi temple (V above).
9. *Praṇāla* set in the *paṭṭikā* and *prati.*
10. Faces east. This is of the same type as at Panangudi, Kaliyapatti etc., more specifically the latter on account of the occurrence of Jyeṣṭhā figure also—seemingly forming part of the *parivāra* subshrines.

IX (Pl. 137)

1. Śiva (Tirumaṅgaliccuramudaiyar) temple, Enadi, Tiruchirapalli District.
2. All-stone structural temple.
3. *Ekatala alpavimāna.*
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, vedī, paṭṭikā* and *prati.*
   (b) Pilastered wall section. No niche; corbels with bevel and weak *taraṅga.*
   (c) Square *vedī's grīvā* and *śikhara nāsikās* with a slit at the base and with well engraved floral designs on them and on the *koṇapaṭṭais.*
5. No sculptures extant.
6. Unitary, but remnants of an *aṣṭaparivāra* layout appear to be available at the site.
7. Nil.
8. Only the cella closed, but the *arḍhamaṇḍapa,* later, of open pillared type.
9. *Praṇāla* in the *kaṇṭha.*

10. Faces east. Miniature Liṅga on a square *pīṭha* in one of the *nāsikās*. The temple appears to be somewhat later than the other types and could be dated to *c.* A.D. 850-70. It is undoubtedly of Pāṇḍya authorship and in the Pāṇḍya country near Ponnamaravati.

X

1. Cokkaliṅgeśvara temple, Ukkirankottai, Tirunelveli District.
2. Structural temple with brick superstructure.
3. *Ekatala alpavimāna.*
4. Since this temple has apparently been rebuilt at a later time, original features are not available. But it has a *caturaśra grīvā* and *śikhara.*
5. No sculptures extant but loose sculptures of Jyeṣṭhā, Dakṣiṇāmūrti, Devī (seated) are available.
6. Unitary.
7. Saḍayamāṟan's record in the socle moldings and outside around the eleventh and fifteenth years displaced and tilted. The temple is thus of the late ninth century. *Epigraphia Indica,* XXIII, No. 45.
8. No special characterization except a simple sanctum.
9. *Praṇāla* on the *paṭṭikā.*
10. Faces east. Since it has an *ekatala* superstructure in brick and stucco, it is to be presumed that it is one of the brick and stucco mixed temples built side by side with a full shrine temple.

XI

1. Vadavayilamarndal, Ukkirankottai, Tirunelveli District.
2. Structural stone temple.
3. *Ekatala alpavimāna, caturaśra.*
4. Socle partially buried, superstructure entirely renovated, but the type, pilasters etc. are similar to the Enadi group.
5. All the sculptures which would make it an *aṣṭaparivāra* shrine exist on the site, including the *vimānadevatās.*
6. Originally perhaps *aṣṭaparivāra.* No trace architecturally now. Perhaps foundation slightly buried.
7. Saḍayamāṟan's record on the door jamb and at the entrance to the compound of around the eleventh and fifteenth years. The temple is of the late ninth century. *Epigraphia Indica,* XXIII,No. 45.

8. As in the Panangudi group (V above).
9. *Praṇāla* not seen owing to the buried socle.
10. Faces east. Typical of the Pāṇḍya early structural temple found on the home soil and in one of the military strongholds of the Pāṇḍyas.

XII (Pl. 132)

1. Puvananāthasvāmī temple, Kovilpatti, Tirunelveli District.
2. Structural temple in stone ground floor and brick and stucco superstructure.
3. *Tritala.*
4. The socle alone retains early features. The wall and superstructure had been renovated in the later Pāṇḍya times. The socle moldings are *upāna, jagatī, tripaṭṭa kumuda, kaṇṭha* with beam projections at intervals in place of *vyālavari*—similar to Sendalai.
5. No sculptures extant.
6. Perhaps originally *aṣṭaparivāra.*
7. Māṟañjaḍayan's fourteenth year, mentioning one Nakkan Gaṇapati, *c.* A.D. 876.
8. The unit contains sanctum and *ardhamaṇḍapa.*
9. *Praṇāla* on the *kaṇṭha.*
10. Faces east. The temple, though not now reflecting the old workmanship, is of the mixed stone and brick type of the Pāṇḍyas and is of medium size. It is *tritala* and has similarities to the Sendalai temple. Has square *grīvā* and *śikhara.*

XIII

1. Nāgeśvarasvāmī temple, Kumbakonam, Thanjavur District.
2 Stone structural temple, with superstructure, particularly *grīvā* and *śikhara,* of brick and mortar.
3. *Dvitala, samacaturaśra.*
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *vedī.*
   (b) *Triratha* wall projection, with niches in the *bhadra* and *hārāntara* and on *ardhamaṇḍapa* wall sections and central niche, but not on the *karṇakūṭa* projection of the *vimāna.* Other than the main niches of the *vimāna* and *ardhamaṇḍapa,* the remaining sculptures, almost in full human size, are secular and perhaps portraits of devotees—recalling similar ones at Srinivasanallur

etc. There are *nāyikā* brackets at the corners of the cantoning pilasters, resting on the *phalaka* and touching the *kapotapotikai* which is of the *taraṅga* type with volute at the corner, and median band.

(c) The *kūḍus* of the *kapota* are open slit type. There is a *vyālavari* over *kapota* and *vedī, hāra* at one level and on the *ardhamaṇḍapa* there is a *nīḍa* or long fronton *nāsikā* by the side of *śālā,* projecting, and recalling that on the roof of the Cāvuṇḍarāya *basti,* datable to *c.* A.D. 900.

(d) *Grīvā* and *śikhara* are also *triratha.* A bold *śukanāsa* projecting just beyond the *karṇakūṭa* limit is present with Umāsahita Śiva in the *kūḍu.*

5. Niche figures: Dakṣiṇāmūrti in the south; Ardhanārī in the west; Brahmā, Bhikṣāṭanamūrti of Śiva and Durgā in the north on the *ardhamaṇḍapa* (recalling the icons used in the Lalgudi temple).
6. Unitary.
7. Māṟañjaḍayan's record of the eighth year is the oldest (*c.* A.D. 870) granting 138 cows for milk and 100 *kasu* for lamp etc. The fabric appears to have been slightly altered into its present form, particularly in the superstructure.
8. The sanctum carries a square *liṅgapīṭha,* which, being in stone, should be coeval with the stone-built stage of the temple; and by its shape is not Coḷa, nor Pallava, Muttarayar or Irukkuveḷ.
9. *Praṇāla* on the *kaṇṭha.*
10. Faces east. Appears to be a Pāṇḍya temple alike from its early records, from Kumbakonam having been a bulwark of Pāṇḍya power and from the architectural details like the square *śikhara* and *liṅgapīṭha.* The *śukanāsa* should be a Cāḷukya vestige acquired by the Pāṇḍyas. The large sized secular human sculptures—some mistaken as royal portraits—strongly recall those at Srinivasanallur and have a Gaṅga affiliation. The *vimānadevatās,* Ardhanārī in the west and Bhikṣāṭana in the *ardhamaṇḍapa* wall, conform to non-Coḷa usage. Only Pāṇḍya influence could have made this temple what it looks like today.

XIV (Pl. 131)

1. Talinātha temple, Tiruppattur, Ramanathapuram District.
2. All-stone structural temple.

3. *Dvitala.*
4. *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha* with *karṇa* and *bhadra* projections and *hārāntara* recesses. *Taraṅga* corbels, *bhūtavalabhī,* drooping *kapota,* circular *nāsikā kūḍus, vyālavari* over *kapota, vedī, hāra* (half way between *arpita* and *anarpita*). *Kuṭa* on the top *tala* as well but no *śālā.* Straight *mānāsūtra, kapotapañjara* in *hārāntara.*
5. No sculpture, except Durgā in the wall projection proper. But on the tower Narasiṁha in the west; Dakṣiṇāmūrti in the south, Brahmā in the north; and Indra in the east. There are two Nandi sculptures on each side of the *grīvā.*
6. Unitary type.
7. Māṟañjaḍayan's (Varaguṇa II) 4th year+593 days (*c.* A.D. 868) and tenth year (*c.* A.D. 872), mentioning Kaṟṟali Bhaṭarar or God of the stone temple. 90/1908.
8. Interior has a *toraṇa* design on the door frame of the *ardhamaṇḍapa* and another at the entrance to the cella. This *ardhamaṇḍapa* is divided into three parts on the ceiling by wall projections carrying *taraṅga potikā* and clerestory-like double beam. The innermost one widens out after an initial narrow width, being the integration with *garbha* of the *ardhamaṇḍapa* section. The *garbhagṛha* has a square *liṅgapīṭha.*
9. *Praṇāla* set in the *kaṇṭha.*
10. Faces east. One of the very few and important Pāṇḍya all-stone temples fully preserved upto the *stūpī*—with its square *śikhara* and *kūṭas* on the very top, it is the forerunner to many Coḷa temples of later periods. This style of having *kūṭas* on the top *tala* is copied by Rājendra and others in the Coḷa country.

XV (Pl. 129)

1. Vāliśvara temple, Tiruvalisvaram, Tirunelveli District.
2. All-stone structural.
3. *Dvitala aṣṭāśra.*
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, vyālavari, vedī,* and *prati.*
   (b) The *bhadra* and *karṇa* are separate with *hārāntara* recess in between. There are simple pilastered wall niches with *makara-toraṇa* but no deities. Simple bevel corbel.
   (c) *Bhūtavalabhī* visible below the *kapota* which has circular *nāsikā kūḍus,* embellished with *koṇapaṭṭai.*

(d) *Vyālavari* and *vedī*. The *grīvā* of the *hāra* has in its pilasters carvings of divinities individually and in groups, of careful and evocative workmanship. The *hāra* rises almost up to the corbel level of the next *tala* and thus only the *haṁsavalabhī* and the part above the *haṁsavalabhī* of this *tala* is visible. The *vyālavari* is shown over the *kapota* of this second *tala* which has a straight outline and is followed by Nandi on the top, octagonal *vedī*, octagonal *grīvā* and *śikhara* with seated Gods in cardinal niches below *nāsikās*, followed by a fluted *kalaśa*.

5. Sculptures in the *grīvā* (cardinal points) are of Brahmā in the north; Yoga-Narasiṁha in the west; Dakṣiṇāmūrti in the south; and Indra in the east. On the *hāra* of the first *tala* they are Tāṇḍavamūrti of Śiva in the south; Liṅgodbhava in the west, with Brahmā and Viṣṇu standing; and Gajāntaka in the north; there is none in the east. Other divinities include Gaṅgādhara, Vṛṣabhāntika-Umāsahita, Naṭarāja, Nandi-anugrahamūrti, Vṛṣabhāntika, Ardhanārī, Tripurāntaka, Dakṣiṇāmūrti, Bhikṣāṭana, Pārvatī-tapas, and Candraśekhara-anugrahamūrti.
6. Probably originally an *aṣṭaparivāra* shrine, but no vestige remains. The present outer premises of the temple, however, have the subshrines of Gaṇeśa etc. in a larger campus.
7. Inscriptions of the time of Rājarāja and the Coḷa and Pāṇḍya viceroys are there, but the temple is obviously truly Pāṇḍya and much earlier.
8. *Garbhagṛha* is a small chamber with a square *liṅgapīṭha*.
9. *Praṇāla* set in the *kaṇṭha*.
10. Faces east. A very important and truly Drāviḍa *vimāna* of only two *talas* and a compact model of the times. Perhaps not later than *c.* A.D. 875-900.

XVI (Pl. 130)

1. Aivarkoil (Aintali), Kodumbalur, Tiruchirapalli District.
2. Structural temple with stone socle and probably brick and stucco superstructure.
3. Not known.
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, paṭṭikā* and *prati*.
   (b)-(d) Not known.
5. Not known. However, the *vimāna* involves four subshrines also

carrying Liṅgas within, in the four corners of a central shrine of Śiva.

6. A stage in between unitary and *parivāra* inasmuch as more than one subshrine exists. The model is a unitary temple's but the construction is multiple-shrined.
7. The earliest inscription is to be found in the *mahāmaṇḍapa* and is dated in the fifteenth year of Rājakesari (Āditya I, *c.* A.D. 886-887) and mentions the Muttarayar woman Nangayar Anantan Paliyili of Urattur Kurram. This woman is obviously Paliyili Siriyanangai, wife of Mallan Anantan and daughter of Sattan Paliyili of the Narttamalai inscription of Paliyilīśvaram, or her daughter. No inscriptions on the main *vimāna*, however, are available. As it is earlier than the Muvarkoil, it should be around the second quarter of the ninth century.
8. The shrine comprises what appears to be a central square main sanctum with perhaps a square wall and a *sāndhāra* passage around it raised over a square socle with four subshrines set in the corners. These are facing in pairs east and west and are approached by lateral flights of steps from the lower level. All of them including the central one carry Liṅgas on square *liṅgapīṭhas*. Access into the *sāndhāra* circuit was apparently provided by two flights of steps placed in the center of the north and south sides. In front of this unit an *ardhamaṇḍapa* of rectangular shape had been added, apparently at a subsequent stage, and also provided with a *mahāmaṇḍapa* not long afterwards, with a short flight of steps leading into the *ardha-* and the *mahāmaṇḍapas* from the narrow constriction between the two, from the north and south respectively, conforming to the usual Coḷa formula.
9. The only way of getting it to function is by the waterchute projection of the *liṅgapīṭha* in the shrines, and these in all cases point northwards. They are also square in section, suggesting a Pāṇḍya-Gaṅga substratum of usage by the Irukkuveḷs, at this early stage.
10. Faces east. This is apparently the earliest known Irukkuveḷ temple, and seemingly of the time of the Pallava Dantivarman, since the features of the socle and the method of approach into the subshrines recall Dantivarman's Sundaravarada temple at Uttiramerur. It is in any case a predecessor to the Muvarkoil complex. We do not know much about the sculptures of the original temple, but some *dvārapālas*, Durgā, etc. found in the ruins appear to be of

an early age. A great part of the wall and superstructure, and even the flooring of the main shrine circuit, seem to have been of brick, which explains why this temple perished, while the Muvarkoil is substantially standing.

XVII (Pl. 138)

1. Muvarkoil group, Kodumbalur, Tiruchirapalli District.
2. All-stone structural temples.
3. *Tritala.*
4. (a) *Upāna,* a prominent scalloped *padma,* followed by a *vṛtta kumuda, vyālavari* and *prati.*
   (b) *Bhadra* projection and *karṇa* provided with cantoning pilasters with the *bhadra* having niches under *makaratoraṇa. Bhūtavalabhī, taraṅga* corbel, *nāsikā kūḍus* cut out and open.
   (c) *Vyālavari* with east-west terminal *makara,* followed by a *vedī,* a high *grīvā,* raised *madhyaśālā* as a regular *alpavimāna* with its own *pāda, grīvā,* higher than the *kūḍus, stambhapañjaras* on the *hārāntara* on the second *tala.*
   (d) Rather subdued *grīvā, haṁsavalabhī,* pilastered niches under bold *nāsikās.* Nandi figures facing front and back. *Caturaśra śikhara* with a convex upper part and a flanged lower part, a *triratha* carried up to the penultimate *tala.* The *tala* arrangement is a *via media* between *arpita* and *anarpita* types.
5. Vīṇādhara Dakṣiṇāmūrti in the south; Brahmā in the north; Gaṅgādhara or Vṛṣabhāntika Śiva in the east.
6. *Śoḍaśaparivāra* unit with vestiges of all the fifteen subshrines including the *nandimaṇḍapa* and the *gopuradvāra* available around the main group of three temples.
7. Inscription without a regnal year of any kind but of an independent character, of Bhūti Vikramakesari, on the *tala* of the central shrine, giving a genealogy of the dynasties up to Vikramakesari; datable perhaps to the beginning of the last quarter of the 9th century A.D. paleographically and architecturally, and certainly before the Sripurambiam battle, after which the Irukkuveḷs become Coḷa vassals.
8. The interior layout consists of a square sanctum with a Liṅga in the center, probably upon a circular *liṅgapīṭha* and with an *ardhamaṇḍapa* of the same dimensions around the cella, with a front

carrying all the socle and *pāda* details of the main shrine, but rising to only one floor.

9. The *praṇāla* in the *vyālavari* has a *simhavaktra* on the northern side.
10. Faces west. The best preserved and oldest known Irukkuveḷ structural temple in stone after the Aivarkoil. The *śālā* is reminiscent of Pāṇḍya architectural traditions, while iconographic influences are apparent from both the Pāṇḍya and Pallava sides. The very multiplication, similar to the Aintali (XVI), of the same shrine unit in three sets, would confer an antiquity for this usage which later went out of use.

XVIII

1. Mahimaleśvara temple, Erode, Coimbatore District.
2. All-brick temple.
3. *Tritala.*
4. (a) Of a simple type raised over an *upāna,* with a false *adhiṣṭhāna* of plain *jagatī;* there is a rise of the wall over this *upāna.* The level of the sanctum, however, corresponds to the *upāna.*
   (b) Pilastered wall section with projections for the *bhadra* and *karṇa* wall faces. Plain bevel or curved corbel, bold rafter projections at the *valabhī,* quadrantal *kapota,* open *nāsikā kūḍus.*
   (c) Schematic *vyālavari* course followed by the *hāra* which comprises a double *śālā* in the middle and *kūṭas* in the corners in the ground *tala* and single *śālā* in the upper *tala.* The scheme is transitional between *arpita* and *anarpita* types. The upper *talas* show *kapota, pañjaras* below the *nāsikās* between *śālā* and *kūṭa.*
   (d) The *grīvā* and *śikhara* are both octagonal.
5. Owing to the highly plastered and modified character of the *vimānadevatās,* features not directly notable.
6. Unitary temple.
7. Nil.
8. The sanctum is a square chamber with a fairly large Liṅga upon a *padmapīṭha* in the center and with the doorway itself having an inset at its middle, thus representing a schematic *antarāla* or transept. Originally no *mukhamaṇḍapa,* but one was added at a comparatively recent period. There would seem to have been a *kapota* projection over the door at the roof level forming a porch as it

were. Since it is an all-brick temple, the original *liṅgapīṭha* in the sanctum should have been of bricks and stucco.

9. There is only a *vārimārga* set in stone at the cella floor level corresponding to the *upāna* outside seen just projecting.

10. Faces west. One of the very few all-brick temples admittedly of the Irukkuveḷ style and seemingly named later after Mahimalaya Irukkuveḷar. The shrine, however, should be slightly earlier than Mahimalaya from its characteristics, not the least of which is the lack of a stone socle, the presence of the double *śālā* of the *hāra* of the ground *tala*, *grīvā* and *śikhara* both octagonal, and the incipient shrine without any *ardhamaṇḍapa*. It is perhaps influenced in its structural tradition by Gaṅga brick workmanship and could be dated to mid-late ninth century.[3]

XIX (Pl. 139)

1. Agastīśvara temple, Kilayur, Tiruchirapalli District.
2. All-stone structural temple.
3. *Tritala.*
4. (a) *Upāna, padma, vṛtta kumuda, vyālavari* and *prati.*
   (b) *Triratha* projection, niches in the *bhadras*, *taraṅga potikā*, *bhūtavalabhī*, open *nāsikā kūḍus.*
   (c) Bold *kapota* with *vyālavari* above and the *śālā* of the *grīvā* rising higher than the *kūṭa;* transitional between *arpita* and *anarpita* schemes.
   (d) *Vedī, grīvā* and *śikhara* of *caturaśra* form ending in square *stūpī. Devakoṣṭhas* in the cardinal points of *grīvā* with bold *nāsikās* above.
5. Brahmā in the north; Dakṣiṇāmūrti in the south; standing Subrahmaṇya in the east and in the upper *tala* niches as well. Gaṇeśa on the *ardhamaṇḍapa* wall in the south; Durgā in the north. Among the interesting sculptures in the upper niche is a Liṅgadhara Śiva on the northern side of the second *tala.*
6. *Aṣṭaparivāra* unit (added subsequently) with the shrines set against the compound wall or *prākāra.* The original temple should have been unitary and was later made into a *parivāra* complex.

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[3] In a recent communication the author has expressed his revised opinion that the Mahimaleśvara temple, Erode, is "better classified as southern Gaṅga".– *Ed.*

7. The earliest undoubtedly early Coḷa inscription is in the twenty-second year of Rājakesari, probably Āditya I (*c.* A.D. 893), and shows evidence of the temple already in existence at that time.
8. Has a very small sanctum with a Liṅga on a circular *pīṭha* with front *maṇḍapa* comprising four free-standing pillars and dividing the chamber on the ceiling into three schematic bays, the *ardha-, mahā-,* and *mukha-maṇḍapas* variously, which alone would have formed the original unit.
9. The *praṇāla* is set in the *vyālavari* on the northern side.
10. Faces west. The temple strongly partakes of Irukkuveḷ architectural elements and has been seemingly carried out under the immediate patronage of Irukkuveḷ chieftains and by Irukkuveḷ artizans. It is likely to belong to a date closer to the Kodumbalur Muvarkoil, for it greatly resembles that temple and imitates it, and thus indicates the extension of Irukkuveḷ architectural style into the Coḷa mainland. The fact that the *śikhara* is square unlike the normal later circular *śikhara* is also a point in favor of an early date. The other temple here (Aruṇācaleśvara or Coḷīśvara) has a circular *śikhara* and is mentioned together with the first temple in the twenty-second year of Āditya (*c.* A.D. 893). However, the alignment of the *parivāra* shrines does not cover this temple and this temple has only an Amman shrine on its northern side, facing south. Further, its periphery in the south is not well organized. Its east niche shows a seated Subrahmaṇya stylistically different from that of the Agastīśvara. All this shows that the Agastīśvara was certainly built first and was followed by the Coḷīśvaram at a later stage of Āditya's reign.

XX (Pl. 140)

1. Candraśekhara temple, Tiruchchendurai, Tiruchirapalli District.
2. All-stone structural temple.
3. *Dvitala.*
4. (a) Buried up to its *vṛtta kumuda;* probably possesses *upāna, padma, vṛtta kumuda,* and *vyālavari,* above which is *prati.*
   (b) Projecting central *bhadra* with niche under *makaratoraṇa, taraṅga potikā,* mixed *bhūta-* and *haṁsa-valabhī, nāsikās* with circular *kūḍu* on the *kapota* with *gaṇa* face within.

(c) *Vyālavari, vedī, śālā* of *alpavimāna* type with its own *kapota, vyālavari* etc. *Kūṭas, śālās* and *hārāntaras* have stele sculptures.

(d) Square *śikhara* with the cardinal points well projected in its *nāsikā* and niche below. The *śikhara* convex on the upper side and flanged along the edges. The *triratha* character maintained up to the top. The upper *talas* have bevel corbel. The scheme of *talas* transitional between *arpita* and *anarpita.*

5. Brahmā in the north and Vṛṣabhāntika Śiva in the south preserved on the ground *tala;* the tower niches show Dakṣiṇāmūrti in the south; Viṣṇu in the west; and Umā-Maheśvara in the east.
6. At present it appears to be a unitary shrine, although indications of its having been an *aṣṭaparivāra* unit are there.
7. Inscription of Pūdi Ādiccapiḍāri in the twenty-third year of Āditya I already refers to the stone temple that was erected at Īśānamaṅgalam.
8. The front doorway has internally sliced pilasters and flanking *dvārapālas,* two-armed, with elaborate hair-do and rich ornaments. The wall shows the return of the moldings from socle to *kapota.* This *ardhamaṇḍapa* internally sliced is divided into three bays by four free-standing pillars and corresponding pilasters. The pillars are of the lower *saduram* and octagonal shaft, followed by *mālāsthāna, kalaśa* etc., up to the *phalaka* and *vīrakāṇḍa.* The sanctum has a Liṅga on *padmapīṭha,* very slender and with a flattened top.
9. *Praṇāla,* provided in the middle of the *kumuda,* is partially buried in the original fabric and added later.
10. Faces east. A convincing example of the typical Irukkuveḷ temple style, copying to a great extent the Kodumbalur type and suggesting that the whole of the southern Kaveri bank, which is hardly twenty-five miles from Kodumbalur, was studded with Irukkuveḷ temples seemingly under Coḷa over-all political control, from the last quarter of the ninth century A.D. onwards, up to almost the third quarter of the tenth.

XXI (Pl. 141)

1. Sadayar temple, Tiruchchennampundi, Tiruchirapalli District.
2. Structural temple with a ground *tala* of stone and the superstructure seemingly of brick and plaster.
3. *Dvitala.*

4. (a) *Adhiṣṭhāna* covered up to the *vedī* level; may have *upāna, jagatī, tripaṭṭa kumuda* and *kaṇṭha.*
   (b) The *bhadra* and *karṇa* parts project slightly and have recessed niches under *makaratoraṇa,* sheltering sculptures; *taraṅga potikā, bhūtavalabhī* with *koḍuṅgai* rafters with lion terminals.
   (c) Well-curved internally and externally to seat the *vyālas* in corners. The *vyālavari* above the *śālās,* raised higher in the *kūṭas,* shows transverse *makara* projections in the *karṇakūṭa* and longitudinal *makaras* in the *bhadraśālā.*
   (d) Square *grīvā* and *śikhara* deducible from the present brick core of the same shape.
5. Dakṣiṇāmūrti in the south; Brahmā in the north; and Ardhanārī in the west.
6. Unitary temple at present, but vestiges of *parivāra* shrines can be traced.
7. Contains a large number of inscriptions including those of Tellarerinda Nandī (Nandī IV) (eighteenth year, *c.* A.D. 910), Ko-Ilango Muttarayar (thirteenth year, *c.* A.D. 855) and Nṛpatuṅga (twenty-second year, *c.* A.D. 881), of which the earliest might be that of the Muttarayar. The earliest Coḷa record is of the eighteenth year of Āditya. None of these is a foundation inscription.
8. In front of the square sanctum, which is now empty, is a *maṇḍapa* divided on the ceiling by *bhūtavalabhī* running all around into three bays and transversely by four free-standing pillars and wall pilasters. The corbels are cut along with the *uttara* beams, as one piece. Outside this *maṇḍapa,* on either side of the doorframe, are niches provided apparently for *dvārapālas.* The scheme follows somewhat the Coḷa formula, though with variant features.
9. Not known.
10. Faces east. The temple evidences the impact of Pāṇḍya influence on Muttarayar style wherein it apparently copies features of the early mixed stone and brick architecture. It is perhaps datable to the third quarter of the ninth century. Since it contains a record of the time of Ko-Ilango Muttarayar in his thirteenth year, which is probably the earliest, there is a great chance of this temple being really made under the patronage of this king (*c.* A.D. 841-59).

XXII (Pl. 142)

1. Karkurici Mahādeva temple (according to inscription), presently known as the Sundareśvara temple, Tirukkattalai, Tiruchirapalli District.
2. All-stone structural temple.
3. *Dvitala.*
4. (*a*) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *prati.*
   (b) Plain pilastered wall with a central niche under *makaratoraṇa,* rather florid and semi-circular, *taraṅga* corbel, *bhūtavalabhī,* rearing *vyālas* in the corners, open *nāsikā kūḍus* with faces inside.
   (c) *Vyālavari, vedī,* bold *grīvā, kūṭa* and *śālā śikhara* at the same height, all these *kūṭa* units having a quadrantal flange.
   (d) Rather subdued *grīvā* with a deep niche under *nāsikās* at the cardinal points in an almost vertical *śikhara* with a slight flange, *haṁsavalabhī* on the *grīvā,* Nandi rising upto the *śikhara* edge.
5. Eastern side: Umā-sahita Śiva at the *grīvā* level.
   Western side: Standing Viṣṇu on the ground *tala;* seated Viṣṇu in the *śālā;* and Lakṣmī-Varāha on the *grīvā.*
   Northern side: Standing Brahmā on the ground *tala;* seated Brahmā in the *śālā* of the ground *tala;* and Daksiṇāmūrti on the *grīvā.*
   Southern side: Tripurāntaka in the ground *tala* niche; Bhiksāṭana in the *śālā* of the ground *tala;* and Dakṣiṇāmūrti on the *grīvā.*
6. *Aṣṭaparivāra* complex with shrines for Sūrya, the Mātṛs, Gaṇeśa, Kārttikeya, Jyeṣṭhā, Durgā, Caṇḍeśa and Nandi. All these, excepting the last two, are constructed against the *prākāra* walls, each with a cella and narrow *ardhamaṇḍapa.*
7. Apparently those of the second and ninth years of one Parakesari (Parāntaka I) are the earliest. One of the third year of a Rājakesari is not that of Āditya I, and is seemingly of the time of Gaṇḍarāditya, and mentions a Mummudi Coḷa-darayan. In any case the temple may be placed around *c.* A.D. 915.
8. Contains a sanctum; the *ardhamaṇḍapa* and the rest form a later complex including the Amman shrine. In the separate single shrine, the *ardhamaṇḍapa* door is flanked by two-armed *dvārapālas* in an inward facing stance.

9. Simple *praṇāla* projection set in the *paṭṭikā* on the northern side.
10. Faces east. As a shrine complex by way of layout, iconography, and style, it is in the developed Irukkuveḷ mode of architecture as represented at a slightly earlier stage by the Śiva temple at Tiruchchendurai and later by the Mucukundeśvaram at Kodumbalur. This temple could have been built by Budi Vikramakesari or perhaps more probably by his son Budi Parāntaka, if the second year record of Parakesari should pertain to Uttama Coḷa and not to Parāntaka.

XXIII

1. Vaṭatīrthanāthasvāmī temple, Andanallur, Tiruchirapalli District.
2. Structural, with stone ground *tala* and brick superstructure.
3. *Dvitala.*
4. (a) *Adhiṣṭhāna* is buried up to the *tripaṭṭa kumuda,* over which there is a *kaṇṭha, paṭṭikā* and *vedī.*
   (b) Plain pilastered wall space in the projecting *bhadra* as well as the side parts, with the niche of the *bhadra* under *makara-toraṇa; taraṅgabodikā, bhūtavalabhī.*
   (c) Open *nāsikā kūḍu* in the *kapota;* even the *vyālavari* is of brick and stucco. Extensively renovated superstructure. The *śālā* and the *kuṭa* of the *hāra* are on almost the same level.
   (d) *Grīvā* and *śikhara* are at present circular, but there is no indication if the entire superstructure conforms to the original pattern. There is a strong likelihood of the original temple having had a square *śikhara,* since the Irukkuveḷs never built circular *śikharas.*
5. None on the ground *tala.* The superstructure, as already mentioned, is renovated.
6. Unitary.
7. The earliest record is of the Irukkuveḷ family during the reign of Bhūti Parāntaka, son of Budi Vikramakesari, datable to the opening decades of the tenth century A.D.
8. The interior shows a square sanctum with a small Liṅga on a circular *pīṭha* in the center. The *maṇḍapa* in front is almost the same width as the cella, and shows divisions of the ceiling space.
9. *Praṇāla* set in the *kaṇṭha.*

10. Faces east. One of the many temples erected almost exclusively under Irukkuveḷ patronage on the south bank of the Kaveri, west of Tiruchirapalli.

XXIV (Pl. 143)

1. Mucukundeśvaram temple (Mudukunram Udaiyar), Kodumbalur, Tiruchirapalli District.
2. All-stone structural temple.
3. *Tritala.*
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *prati.*
   (b) Plain pilastered wall with central projecting niche, bevel corbel, *bhūtavalabhī* with separate *gaṇa* units.
   (c) Weak *nāsikās* with circular *kūḍus* on the *kapota; vyālavari, vedī,* high *grīvā* for the *hāra* with pilastered niches in the *kūṭa* and *śālā* and *kapotapañjara* in the *hārāntara.* The *kūṭas* are of the splayed edge type.
   (d) A well balanced *grīvā* with projecting niches under open *nāsikās* of a very bold and coarse character; a rather flattish *śikhara* with sharp lower flange.
5. Brahmā in the north; Dakṣiṇāmūrti in the south; Umā-sahita Śiva in the east; and Viṣṇu in the west.
6. *Aṣṭaparivāra* with the subshrines built and attached to the *prākāra* wall as at Tirukkattalai (XXII above).
7. Contains a consecration record of the temple placed, seemingly long after construction, at the hands of Mahimālaya Irukkuveḷar, the son of Bhūti Parāntaka, around the third quarter of the tenth century A.D. There are other (some unpublished) records in this temple.
8. The interior comprises a sanctum with a Liṅga on a circular *pīṭha* and a front *maṇḍapa* divided into three transverse bays almost similar to that at Tirukkattalai (XXII above). The temple is *triratha* from base to *śikhara.* The *hāra* level in the *kūṭa* and *śālā* of the second *tala* well above that of the first; Nandis facing front and back.
9. *Praṇāla* set in the *paṭṭikā.*
10. Faces east. A landmark in the evolved Irukkuveḷ style owing to its foundational character and close relationship with Tiruchchendurai (XX above) on the one hand and Tirukkattalai

(XXII above) on the other. The *śikhara* appears to have been repaired during the time of Kulottuṅga as indicated by an inscription.

XXV (Pl. 144)

1. Bhūmīśvara temple, Viralur, Tiruchirapalli District.
2. All-stone structural temple.
3. *Ekatala alpavimāna* with *vṛtta grīvā śikhara.*
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *prati.*
   (b) Plain pilastered wall section, bevel corbel, *bhūtavalabhī.*
   (c) Heavy and curved *kapota* with weak *nāsikās* having circular *kūḍus,* weak *vyālavari,* low *vedī* well within the *vyālavari.*
   (d) Subdued *grīvā* with simple pilastered niche; a smooth concave bulging *śikhara* with a wide flange.
5. Viṣṇu in the west; Dakṣiṇāmūrti in the south; Bhikṣāṭanamūrti in the north.
6. *Aṣṭaparivāra* unit of which the Kārttikeya and Durgā subshrines are vestigially present with their walls attached to the *prākāra.* Most of the sculptures of the subshrines are present.
7. No record earlier than the Coḷas of the tenth century.
8. The sanctum carries a Liṅga on the circular *pīṭha* with a *maṇḍapa* in front, of almost the same dimensions as the sanctum. The *vyālavari* continued over the *ardhamaṇḍapa* roof.
9. *Praṇāla* set in the *upāna,* suggestive of the evolved character of the stone temple.
10. Faces east. One of the interesting early temples of the Muttarayars, who were in favor of the circular *grīvā* and *śikhara.* The arrangement of the *praṇāla* would seem to suggest that the temple might have been originally in brick and later rebuilt in stone. The *aṣṭaparivāra* unit and iconography again would recall corresponding but later examples at Tirukkattalai (XXII above). The temple is perhaps to be placed in the third quarter of the ninth century.

XXVI (Pl. 145)

1. Subrahmaṇyeśvara shrine, Kannanur, Tiruchirapalli District.
2. All-stone structural temple.
3. *Ekatala alpavimāna.*

4. (a) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *prati.*
   (b) Plain pilastered sections with low central niche, bevel corbel, *bhūtavalabhī* of separate units.
   (c) Drooping *kapota* with circular *nāsikā kūḍus; vyālavari* with full laterally facing *vyālas.*
   (d) *Vedī* integrated with *grīvā* niches in the *grīvā,* bold open *nāsikās* above fitted to the *śikhara. Śikhara* having a bulging upper and well flanged lower parts. *Haṁsavalabhī* under the *śikhara* edge.
5. Elephant figures on the four corners of the *grīvā.* No niche sculptures present on ground *tala* excepting Dakṣiṇāmūrti of a later age on the southern niche. On the *grīvā* there are standing divinities of indeterminate characters, all of them probably forms of Subrahmaṇya.
6. Unitary temple of *svayambhū* character.
7. There are inscriptions, seemingly of the time of Āditya I, but not of foundational character. Temple datable to the third quarter of the ninth century.
8. The interior shows a figure of Subrahmaṇya in a standing posture. Additional *mahāmaṇḍapa* with a lateral entrance between it and the *ardhamaṇḍapa* and access into the *mahāmaṇḍapa* itself from the south, of the Pāṇḍya period.
9. *Praṇāla* set in the *kaṇṭha.*
10. Faces east. The layout having plain and straight base line with a lightly recessed *mukhamaṇḍapa.* One of the early Muttarayar stone temples dedicated to Subrahmaṇya in an area under the direct influence of Pāṇḍya art, but still conforming to the preference for circular *śikharas* of the Muttarayars.

XXVII

1. Uttamadanīśvara (now called Uttamanāthasvāmī) temple, Kiranur, Tiruchirapalli District.
2. Structural temple of stone ground *tala* and brick superstructure.
3. *Ekatala alpavimāna* with *vṛtta grīvā śikhara.*
4. (a) *Upāna, jagatī, vṛtta kumuda, vyālavari* in the *kaṇṭha, paṭṭikā* and *prati.*
   (b) Plain pilastered wall space, bevel corbel, *haṁsavalabhī.*
   (c) *Kapota* with circular *nāsikā kūḍu, vyālavari* above, *vedī* integrated.

(d) *Grīvā śikhara* circular.

5. Not extant.
6. Unitary.
7. An important inscription dated in the independent thirteenth year of Ko-Ilango Muttarayar, called Uttamadani, found on the southern *ardhamaṇḍapa* wall, indicates a spell of independent jurisdiction for the Muttarayars from Pallava hegemony, presumably during the later part of Dantivarman's rule.
8. The interior contains a very small sanctum with a Liṅga on the circular *pīṭha* and with a narrow *ardhamaṇḍapa*.
9. *Praṇāla* set on the *vyālavari*.
10. Faces east. One of the interesting and typical Muttarayar temples with characteristic socle (similar to the structural socle of the Paliyilīśvaram cave, XXXIII below) and mixed style of building in stone and brick. A landmark in Muttarayar architecture close to the Coḷa country. The *śikhara* is clearly a later renovation and should have been square, most probably, in the original.

XXVIII (Pl. 146)

1. Uttamadanīśvara temple, Kilattanaiyam, Tiruchirapalli District.
2. All-stone structural temple.
3. *Ekatala alpavimāna*.
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *prati*.
   (b) Simple bevel corbel and *bhūtavalabhī*.
   (c) *Kapota* with circular *kūḍus* on its *nāsikās, vyālavari* and *vedī* integrated.
   (d) *Grīvā* and *śikhara* square.
5. Brahmā in the north; Dakṣiṇāmūrti in the south; and Viṣṇu in the west.
6. Probably of the *aṣṭaparivāra* type, although the old subshrines are destroyed except for two (renovated) of Gaṇeśa and Subrahmaṇya. *Prākāra* wall extant.
7. Inscription of the fourth year of Rājakesari, perhaps Gaṇḍarāditya, mentioning the name of the temple as Uttamadanīśvaram.
8. Sanctum carries a Liṅga on a circular *liṅgapīṭha*.
9. *Praṇāla* set in the *kaṇṭha*.
10. Faces east. The temple with its square *grīvā* and *śikhara* was a variant Muttarayar model of the time of Ko-Ilango Muttarayar

alias Uttamadani who, under the Pāṇḍya influence, built temples with square *grīvā* and *śikhara* as at Tiruchchatturai, Tiruchchennampundi in the delta country as well.

XXIX (Pl. 147)

1. Vijayālayacoḷiśvaram temple, Narttamalai, Tiruchirapalli District.
2. All-stone structural temple.
3. *Tritala.*
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *prati.*
   (b) Plain pilastered wall with niches or relief, bevel corbel, *bhūtavalabhī.*
   (c) Open *nāsikā kūḍu* on the *kapota, vyālavari, vedī.*
   (*d*) High *grīvā,* with fairly bold *nāsikās* on the *śikhara,* somewhat flanged at the edge; Nandis facing front and back.
5. Vīṇādhara Dakṣiṇāmurti in the south; Umā-sahita Śiva in the east; Brahmā in the north; other sculptures in the different *talas* indeterminate.
6. *Aṣṭaparivāra* unit (of which there are six extant) built off the *prākāra* wall as free-standing *ekatala alpavimānas* with an *ardhamaṇḍapa* in front of the *śālā* in each case. Their orientation is towards the main temple. They are all of the *vṛtta grīvā śikhara* type. The Saptamātṛ shrine, which is not extant, should have had a *śālā śikhara.*
7. An inscription under one of the *dvārapālas* states that the original temple was constructed by Sattambudi alias Viḍelviḍugu Ilango Adi Araiyar and repaired, after its damage by rain, by Mallan Viduman. This Mallan Viduman is apparently related to Mallan Anantan, husband of Paliyili Sirianangai, and daughter of Viḍelviḍugu Ilango Adi Araiyar and his daughter Sattam Paliyili.
8. The layout is with a straight *mānasūtra;* slight *triratha* in the front wall with niches for *dvārapālas* on either side. *Dvārapālas* present. *Hāra* parapet continued in the *ardhamaṇḍapa* roof in Cāḷukya style. There is a *sāndhāra* circuit around the circular ground *tala* sanctum. The *hāra* is *anarpita* throughout, on each of the *talas.*
9. *Praṇāla* is set on the *paṭṭikā.*
10. Faces west. One of the important temples of the early Muttarayars, entirely circular from ground *tala* up to *śikhara,* constituting a single Vesara example. Also one of the earliest *aṣṭaparivāra* units

under the influence of early Pāṇḍya architecture. The interior shows *taraṅga bodigai* of simple *taraṅga* type and has remnants of painting on the walls and ceiling, perhaps of a much later period. The temple is definitely datable to the mid-ninth century A.D. and is pre-Vijayālaya.

XXX (Pl. 148)

1. Sundareśvara temple (old name: Perundurai Mahādeva of Candraśekharacaturvedīmaṅgalam), Sendalai, Thanjavur District.
2. Structural temple of mixed style: ground *tala* in stone and superstructure in brick.
3. *Dvitala.*
4. (a) *Upāna, jagatī, vṛtta kumuda, kaṇṭha* with rafter projections forming a schematic *vyālavari, paṭṭikā* and *prati.*
   (b) Plain pilastered section with no sculptures, *taraṅga bodigai, bhūtavalabhī.*
   (c) Open *nāsikā kūḍus* on the *kapota, vyālavari* above the *vedī,* above which the stucco superstructure starts. Figures of divinities are shown in the *hārāntara* above the *prastara.*
   (d) Circular *grīvā* and *śikhara.*
5. No niche in the ground *tala.* The upper *talas* show Brahmā on the *pāda* of the *śālā* as well as on the *grīvā* in the north; Narasiṁha and seated Viṣṇu in the west at the same points; Dakṣiṇāmūrti in the south; on the east the *grīvā* shows Umā-sahita Śiva.
6. A *parivāra* temple of which the subsidiary shrines have been considerably altered. The door jamb of the Gaṇeśa shrine contains an inscription dated in the sixteenth regnal year of Māṟañjaḍayan Pāṇḍya, obviously Varaguṇa II (*c.* A.D. 862-900).
7. The Pāṇḍya inscription mentioned above is the earliest in the main complex; the earliest in the temple premises, however, are those on the four granite pillars used in the construction of the outermost *maṇḍapa* within the *gopuradvāra* and which apparently belonged to the temple of Mahākalattu Pidariyar, built at Nemam, by Perumpidugu Muttarayar. This Pāṇḍya inscription contains a reasonably useful genealogy of the independent Ko-Ilango Muttarayar in his eighteenth year. The earliest Coḷa record is of the second year of a Rājakesari, who must be Gaṇḍarāditya.

8. The main *vimāna* has straight sides; the slightly recessed *ardhamaṇḍapa,* almost of the same dimensions, has *kapota* lower than that of the main temple and continues the other features of the main *vimāna.* The interior shows the return of the moldings on the outer wall of the cella as well as the *ardhamaṇḍapa;* two-armed *dvārapālas* in niches flank the door frame. The sanctum has a small circular *liṅgapīṭha* with a slender Liṅga.
9. *Praṇāla* is set in the *vyālavari* and *prati,* but is probably a replacement.
10. Faces east. It is a typical example of the mixed stone and brick temples of the Muttarayars. This temple in its present form should be earlier than Uttamadani Ilango Muttarayar owing to its circular *śikhara* and similarity of socle with the Pāṇḍya temple at Koilpatti, etc.

XXXI (Pls. 149-150)

1. Irāvateśvara temple, Nemam, Thanjavur District.
2. All-stone structural temple.
3. *Dvitala.*
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha,* projecting *vedī* and *prati.*
   (b) *Triratha* and plain. Only the *bhadras* have niches and the pilasters are all of the square type with *taraṅga potikā* and median band.
   (c) *Bhūtavalabhī* on the ground and second *talas* and *haṁsavalabhī* on the *grīvā;* the *bhadraśālā* and *karṇakūṭa* at the same level.
   (d) Square *grīvā* and *śikhara.*
5. Viṣṇu in the west; Brahmā in the north; Dakṣiṇāmūrti in the south.
6. *Aṣṭaparivāra* shrines have been renovated.
7. The earliest known inscription is in the tenth year of Māṟanjaḍayan (Varaguṇa II), A.D. 872, and states that a servant of Viḍelviḍugu Muttarayar made a gift of a lamp for Mahākalattu Pidariyar at Nemam. The earliest Coḷa inscription is of the eighteenth year of Rājakesari (Āditya, A.D. 889) and pertains to the Pīḍārī temple. An inscription of the twenty-fourth year of the same king pertains to the Irāvateśvara temple, thus indicating

that the Pīḍāri temple fell into disuse between these two dates.

8. The interior of the *ardhamaṇḍapa* is not preserved, but the main doorframe is fairly wide-set with plain pilasters, and carries scroll work on the jambs and the pilastered lintel. The Liṅga of normal size inside the sanctum is on a circular and comparatively later *liṅgapīṭha*.
9. The *praṇāla* is set between the *jagatī* and *tripaṭṭa kumuda* in a simple projecting channel block.
10. Faces east. The present Irāvateśvara temple is entirely in the evolved Irukkuveḷ style like Tiruchchendurai (XX above). The obvious reason is that after the Pīḍārī temple of the Muttarayars was ruined, the Irāvateśvara temple was set up, either on the same spot or more probably as a separate shrine in the same village (where it now is). Most of the early inscriptions at Nemam, including one of Tellarru Nandī (Nandivarman IV), refer to Mahākalattu Pīḍārī and not to Irāvateśvara; this, together with the earliest reference to the Irāvateśvara proper in the twenty-fourth year of Āditya (A.D. 895), shows that this temple came into existence towards the closing part of Āditya's reign.

XXXII

1. Odanavaneśvarar (Tiruchorruthurai), Tiruchchatturai, Thanjavur District.
2. Structural temple.
3. *Dvitala*.
4. (a) *Upāna*, low *padma*, *jagatī*, *tripaṭṭa kumuda*, narrow *kaṇṭha*, *paṭṭikā* and *prati*.
   (b) Plain pilasters, square sectioned, with *taraṅga potikā* and *bhūtavalabhī*.
   (c) *Vyālavari* over the cornice.
   (d) Square *grīvā* and *śikhara*.
5. Standing figures in the *devakoṣṭhas* unidentifiable.
6. Apparently *parivāra* unit originally; the figures of the Saptamātṛkās, Sūrya etc. are found in the premises.
7. A record independently dated in the Muttarayar regnal year of Ilango in his thirteenth year giving the same date as the Kiranur record. The earliest record of the Coḷa period seems to be that of the seventeenth year of Āditya.

8. The sanctum contains a medium-sized *liṅgapīṭha* of circular section. It has in front an *ardhamaṇḍapa* half the size of the sanctum.
9. *Praṇāla* set on the *padmadala* below *jagatī*.
10. Faces east. The temple, which was apparently a Muttarayar foundation, has been influenced by Pāṇḍya elements, like the square *śikhara,* usually unknown in Muttarayar compositions. It seems to have been originally a brick temple.

XXXIII

1. Paliyilīśvaram, Narttamalai, Tirichirapalli District.
2. Structural temple (structural *maṇḍapa*).
3. Only plain socle preserved.
4. (a) *Upāna, jagatī, vṛtta kumuda, vyālavari, kaṇṭha* and *paṭṭikā.*
   (b)–(d) Not extant.
5. Not extant.
6. Unitary.
7. Inscriptions dated in the seventh regnal year of Nṛpatuṅga Pallava referring to the institution of *arcanābhoga* for the *mukhamaṇḍapa, ṛṣabha* and *ṛṣabhamaṇḍapa* built for the Paliyilīśvaram cave, originally excavated by Sattam Paliyili, Mallan Anantan and Paliyili Sirianangai, apparently son-in-law and daughter of Sattampaliyili.
8. Nil.
9. Not applicable, since it is a *mukhamaṇḍapa.*
10. Faces east. Its architectural style compares favorably with Muttarayar temples elsewhere in the preference for the *vṛtta kumuda* and *vyālavari.* The small dimensions of the individual elements constituting this structure would also indicate an incipient stage in the building style of free standing granite monuments.

XXXIV (Pl. 151)

1. Sundareśvara temple (called Māṟavanīśvaragṛham in its inscriptions), Nangavaram, Tiruchirapalli District.
2. All-stone structural temple.
3. *Tritala.*
4. (a) *Adhiṣṭhāna* buried up to the *tripaṭṭa kumuda,* the bold *kaṇṭha, paṭṭikā* and *prati* alone being visible.

(b) Square *saduram,* and octagonal shaft followed by *kalaśa, tāḍi, kumbha* etc. up to a high *vīrakāṇḍa,* with *taraṅga potikā* voluted at the angles. Niches carry *makaratoraṇa,* with the floriated tails of the *makaras* reaching to the *vīrakāṇḍa* level; *bhūtavalabhī.*

(c) *Vyālavari* shown as a separate unit for the *karṇakuṭa* having open *nāsika kūḍus,* followed by *vedī,* and *grīvā,* and the *hāra* whose constituent *śālās* and *kūṭas* are at the same level.

(d) *Vṛtta grīvā śikhara* (hemispherical) with a sharp flange on the edge.

5. The *talacchanda* is a *via media* between *arpita* and *anarpita* types; a modern Dakṣiṇāmūrti (Vīṇādhara type) on the *grīvā* in the south; Viṣṇu in the west; Brahmā(?) in the north; and Umā-sahita Śiva on the east.

6. *Aṣṭaparivāra* complex of which shrines of the Saptamātṛs, Gaṇeśa, Kārttikeya (renovated), Jyeṣṭhā (as indicated by the image) and Durgā (also facing east) are extant. The Caṇḍeśa shrine is badly ruined. The most interesting aspect of the *parivāra* setup is the unique Gaṇeśa shrine with an apsidal superstructure over a square ground *tala.*

7. The earliest inscription at the site is of the time of Bhūti Parāntaka, one of the sons of Bhūti Vikramakesari, referring to the benefactions of the Pīḍārī shrine in the place. The buried socle of this temple might contain earlier inscriptions related to this temple.

8. The sanctum contains a small cylindrical Liṅga over an equally small circular sectioned *padmapīṭha* outside the sanctum. The *ardhamaṇḍapa* has the divisions of ceiling resulting in three bays with corbels cut in a *taraṅga* pattern integrally with them and provided with pilasters on the sides.

9. The *praṇāla* of the *parivāra* shrines are cut in the *paṭṭikā,* below the *vedī,* while that of the main shrine is apparently cut on the *paṭṭikā* itself without the *vedī* above it.

10. Faces east. The temple resembles the Vijayālayacoḷīśvaram in the free-standing *parivāra* subshrines, away from the compound wall or *prākāra.* It is perhaps subsequent to the Vijayālaya-coḷīśvaram, and built approximately towards the early second half of the ninth century in an area which was well within Muttarayar territory up to A.D. 865.

XXXV

1. Mahādeva temple, Tillaisthanam, Thanjavur District.
2. Structural temple.
3. *Dvitala.*
4. (a) *Upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *prati.*
   (b) Pilasters with *taraṅga potikā; bhūtavalabhī* present.
   (c)–(d) Square *grīvā* and *śikhara* over the upper *tala.*
5. Dakṣiṇāmūrti in the south; Viṣṇu in the west; Brahmā in the north.
6. Unitary shrine, but might have been of the *parivāra* type originally.
7. The earliest record is of the tenth year of Nandivarman III (c. A.D. 845), followed by one of the fourth year of Māṟañjaḍayan Varaguṇa II (c. A.D. 866). The most important of the Coḷa inscriptions and probably the earliest of that group is an undated record mentioning Āditya I's conquest of Toṇḍaināḍu and his honoring one Vikki Annan (perhaps Irukkuveḷ) with a title and other decorations, in the company of Ceraman Sthāṇuravi. This record should obviously have been subsequent to the twenty-seventh year of Āditya I (Tirukkalukkunram record), by which time alone could he claim to have become the master of Toṇḍaināḍu.
8. *Garbhagṛha* contains a Liṅga on a circular *pīṭha* of the *padmapīṭha* type.
9. *Praṇāla* on the *upāna* level.
10. Faces east. The shrine has a straight *mānasūtra* line for its socle outline, and, together with its square *grīvā* and *śikhara,* and the type of socle moldings and *vimānadevatās,* as well as the association of Varaguṇa II with the earliest stages of the temple, should have been converted from the original brick into stone in the Pāṇḍya period around the third quarter of ninth century.

XXXVI

1. Mahādeva temple at Tirutturutti, Tiruppunturutti, Thanjavur District.
2. Structural temple.
3. *Ekatala.*
4. (a) *Upāna* over a basal molding, *jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā* and *prati.*

(b) Pilasters with *taraṅga* corbels and *bhūtavalabhī*.
(c)–(d) Octagonal *vedī* and octagonal *grīvā*, but presenting in its existing condition a *vṛtta śikhara;* although consistent with the octagonal *vedī* and *grīvā*, the original *śikhara* should also have been octagonal.

5. Bhiksāṭana in the north; Ardhanārī in the west; and Vīṇādhra Dakṣiṇāmūrti in the south.
6. Unitary shrine in its present form.
7. The earliest Coḷa record is probably of the twenty-sixth year of Āditya I, mentioning the gift of a lamp-stand and gold by Kavidi Subramanian of Pāṇḍyanāḍu.
8. The *garbhagṛha* contains a Liṅga on a circular *pīṭha* of the *padma-pīṭha* type.
9. *Praṇāla* set on the *upāna*.
10. Faces east. By its octagonal *grīvā*, the shrine is unique among the temples of the upper Kaveri delta, and should obviously have been a Pāṇḍya foundation in the original mixed stone and brick form.

XXXVII

1. Pañcanātheśvara, Tiruvaiyaru, Thanjavur District.
2. Structural temple.
3. *Dvitala*.
4. (a) *Upāna*, high *padma, vṛtta kumuda* encased in *padmakośa, kaṇṭha* with a *vedī* top and *prati*.
   (b) *Taraṅga* corbel and *bhūtavalabhī*.
   (c) Semicircular *kūḍus* on the *kapota* and *vyālavari*.
   (d) *Vṛtta grīvā* and *śikhara* (the latter is modern with *kūṭas* set in the four corners of the upper *tala*).
5. Dakṣiṇāmūrti in the south; Ardhanārī in the west; Brahmā in the north.
6. *Parivāra* shrines might have been there, but only remnants of the subshrines and some of the sculptures are now extant.
7. The earliest Coḷa inscription probably of the seventeenth year of Āditya, mentioning a gift by a mistress of the Coḷa king, called Nakkan Ayyar Adigal.
8. *Garbhagṛha* contains a circular *pīṭha* and the outer walls are in *triratha* layout.

9. A functional *praṇāla* is set in the *kumuda.*
10. Faces east. The temple is obviously pre-Coḷa even in its stone and brick architecture and displays interesting Pāṇḍya characteristics, like *kūṭas* on the uppermost *tala.* The *śikhara* in the original should have been square. It should have been perhaps a Muttarayar foundation under Pāṇḍya influence, of the third quarter of the ninth centuryA.D.

XXXVIII (Pl. 152)

1. Koraṅganātha temple (Tirukkorakkutturai Peruman Adigal), Srinivasanallur, Tiruchirapalli District.
2. Mixed structural style of stone-built ground *tala* and brick and stucco superstructure.
3. *Dvitala.*
4. (a) *Upāna, jagatī, vṛtta kumuda, vyālavari, vedī* and *prati,* with a ground plan, of three projections and two recessions.
   (b) Long square-sectioned pilasters on the main wall of the cantoning type with circular pilasters flanking the central niches, bevel corbel, *valabhī* in the form of rafter ends.
   (c) *Kapota* with *vyālavari* above over which the device is in brick with tall *śālās* and *kūṭas.*
   (d) Square *grīvā* and *śikhara.*
5. Dakṣiṇāmūrti in the south; Brahmā in the north; no divinity in the west. However, the *toraṇa* of this niche carries a figure of Narasiṁha.
6. Unitary.
7. The earliest known inscription would appear to be of the twenty-fourth year of Rājakesari, probably Āditya I (c. A.D. 895), although this is not a foundation inscription.
8. The shrine is provided with an *ardhamaṇḍapa,* slightly narrower than the main *vimāna,* with four free-standing pillars inside, dividing the chamber into three bays. The *garbhagṛha* is empty. The front doorframe is without any porch and has niches for *dvārapalas.* There are also niches on the side walls of the *ardhamaṇḍapa* for Durgā and Gaṇapati.
9. *Praṇāla* in the *vyālavari.*
10. Faces east. Superstructure shows an *anarpita* ground *tala prastara* and a tall raised *hāra* recalling the style utilized till the Vijayā-

layacoḷīśvaram on the one hand and the Gaṅga temples on the other. The place, though ancient and called Mahendramaṅgalam, is actually within the territorial limits of the Gaṅgas from where quite obviously the brick tradition as well as the *caturaśra śikhara* were drawn. There are life-size attendant sculptures on the walls of the ground *tala*, recalling those at the Nāgeśvara, Kumbakonam. It is clear that the temple is not a Coḷa foundation, but of the Gaṅgas, and datable to the middle of the ninth century A.D. Its socle features are broadly in accord with early Muttarayar shrines as at Kiranur.

XXXIX

1. Saptarṣīśvara temple (ancient Tiruttavatturai), Lalgudi, Tiruchirapalli District.
2. Mixed structural style with ground *tala* in stone and superstructure in brick.
3. *Ekatala alpavimāna.*
4. (a) *Upāna, padma, vṛtta kumuda, vyālavari* in *kaṇṭha, vedī* and *prati.*
   (b) Square pilasters on the walls with three slightly projecting niches, *taraṅgapotikā, bhūtavalabhī.*
   (c) *Kapotas* with open *kūḍu, vyālavari* showing lateral forms of lions.
   (d) *Vṛtta grīvā śikhara* over *vedī.*
5. Ardhanārī in the east; Bhikṣāṭana in the north; and Vīṇādhara Dakṣiṇāmūrti in the south. The *grīvā* shows Brahmā in the north; Umā-sahita Śiva in the east; and Dakṣiṇāmūrti in the south.
6. Unitary.
7. The earliest inscriptions are of the fifth year of Nandivarman III (c. A.D. 840), second year of Nṛpatuṅga (c. A.D. 861), and thirteenth year of Varaguṇa II (c. A.D. 875). The earliest Coḷa inscription is of the twenty-seventh year of Rājakesari, probably Āditya (c. A.D. 898).
8. The *ardhamaṇḍapa* is reasonably narrow with four free-standing pillars with a circular cross-section, square *phalaka* and *taraṅga potikā*, dividing the *ardhamaṇḍapa* into three bays. The sanctum contains a small Liṅga on a circular *pīṭha.*
9. *Praṇāla* set in the *upāna.*
10. Faces west. The temple is an interesting specimen of a brick

structure subsequently converted into stone. Of the earliest three inscriptions, at least two should have been fixed upon the original brick temple, and the Pāṇḍya inscription might have been almost contemporary with the stone temple. The temple is not a Coḷa foundation and follows a style already practised in the Irukkuveḷ tract as at Kodumbalur around A.D. 875. The *vimānadevatās* also proclaim an early date. This archetype also repeats itself at Kuhur, Tiruvaiyaru, Valikandapuram, Vellakanchipuram and Tiruvisalur.

XL

1. Divyajñāneśvara temple (Tiruppuratturai Mahādeva), Koviladi, Thanjavur District.
2. All-stone structural temple.
3. *Ekatala alpavimāna.*
4. (*a*) *Upapīṭha* of the *mañca* type over which there is an *upāna, jagatī, tripaṭṭa kumuda, kaṇṭha, paṭṭikā, vedī* and *prati.*
   (b) Plain square pilasters, bevel corbel.
   (c) *Kapota* with circular *kūḍus; vyālavari, vedī.*
   (d) *Vṛtta grīvā śikhara.*
5. Dakṣiṇāmūrti in the south; Ardhanārī in the west; Brahmā in the north; Durgā and Gaṇeśa in the north and south of the *ardhamaṇḍapa.*
6. Originally, apparently an *aṣṭaparivāra* complex, with practically no trace of it now except for a few sculptures.
7. The oldest inscription is in the third year of Rājakesari, apparently Gaṇḍarāditya, and another, without date, but of the time, mentioning one Sembiam Vedivelan as the builder of this stone temple for Tiruppuratturai Emberuman.
8. *Ardhamaṇḍapa* narrower than the *garbhagṛha* and with a plain interior; sanctum carrying a cylindrical Liṅga on the circular *pīṭha.*
9. *Praṇāla* on the *kaṇṭha.*
10. Faces east. The temple is an archetype of the mid-tenth century A.D. style and truly Coḷa. Its builder is the same person as the builder of the temple at Tiruverambur. It differs from the truly early Coḷa temples, having an *alpavimāna* with a *vṛtta grīvā śikhara,* mainly in the provision of *upapīṭha* as seen at Tiruverambur itself.

Circular *grīvā śikhara* is a legacy alike of the Pallavas as of the Muttarayars.

V. IN RETROSPECT

The foregoing treatment, though largely a first attempt and on a modest scale, must have convinced the student of architecture that art and politics have no direct or parallel relationship; the arts follow their own orbits and do not fully conform to historical processes or to the demands of political overlordship. The stimuli cross frontiers and, to the dismay of doctrinaire art historians, flourish subject only to geography, cultural response and propitious circumstance. They are not organically evolutionary processes but creative ones, with all the latter's aberrations. Thus academic workers have validly assumed that the regional norm is a more stable basis for analyzing art trends, particularly in architecture, than the dynastic or even the personal. The truest index of the stimulus, however, is the unexplained urge of some artists and artisans to seek self-expression —which is the reason why some of the regional dynasties, though pedantic in their genealogy and powerful in politics, have hardly left any mark on the art created in their domains; while others, placed in the "critical" favored context and circumstance where the *élan,* the raw material and the models were close at hand, fostered impressive local schools of art.

In the circumstances, political and cultural, that prevailed in southern Tamil Nad, in the century succeeding the fall of the first Pallava empire with Parameśvaravarman II, the most noteworthy contributions made to architecture were by the three regional houses, the Pāṇḍya, Muttarayar and Irukkuveḷ—the last two complementary to each other, as it were, and which together most effectively received the impact of the first Pāṇḍya kingdom at its zenith. The period coincided with the formative stages of structural stone temples in granite, and the norms that were then created continued to hold their ground for nearly two centuries, until Rājarāja, when the zenith of the ascendant Coḷa power was reached. It is needless to say that the next two centuries were totally dominated by the imperial Coḷa spirit, more sociologically than dynastically. Thus, the socio-cultural vitality in Tamil Nad was successively kept up by the stimuli created by the early Pallavas, the early Pāṇḍyas, the imperial Coḷas and (later) by the rulers of Vijayanagar. At each stage, the spell crossed frontiers and the results were standardized.

Only one trend, however, is somewhat peculiar and noteworthy amidst

these oscillations of artistic enterprise, namely, that the western side of the country was one continuous organism, with the eastern forming the foil. This is not well explained but factually seems to be indisputable. The Cāḷukya, Gaṅga, Irukkuveḷ, and Pāṇḍya formulae possessed a kinship, while the Pallava, Muttarayar, and Coḷa formed the complement. This, we may as well note, was in spite of the fact that the Muttarayars, for instance, were uprooted by the Coḷas and that the Irukkuveḷs were more the vassals of the Pallavas, and more the comrades of the Coḷas than of the Pāṇḍyas (with whom they had the most rewarding cultural nexus). The Muttarayars, undoubtedly, were the primary agency for the assimilation of the Pallava trends which they transmitted to the Coḷas. This is more than vindicated by the fact that the Kaveri delta country, where the Muttarayars held sway, was the only area from which the Coḷas could have acquired their knowledge which they put to meaningful use when they became an imperial power after Parāntaka I.

The simple fact that during the period between A.D. 800 and 950, more temples were constructed in south Tamil Nad than in the Toṇḍai-maṇḍalam of the Pallavas, testifies to the theater of art activity having unmistakably shifted south, and that the challenging position of the Pāṇḍyas in this period had thus to be reckoned with. Thus, we see that the square *grīvā* and *śikhara,* so assiduously maintained (apart from the octagonal) by the Pāṇḍyas, are equally tenaciously adhered to by the Irukkuveḷs, while the circular *grīvā-śikhara* of the Pallavas from the time of the close of Nandivarman II's reign itself (as at Mukteśvara, Mātaṅgeśvara etc.) becomes the common inheritance, first of the Muttarayars, who built very few square *śikhara* temples, and later of the Coḷas, who had a strong bias for the circular *śikhara* and had never preferred the square one. This feature is useful in explaining the true genesis even of some of the square *śikhara* temples in the heart of the Coḷa country, which can be attributed to the Muttarayars but not to the Coḷas. In such cases, the undoubted presence of early Pāṇḍya inscriptions (and *ipso facto* the early Pāṇḍya local contribution) in the temples suggests the authors to whom truly the finite character of the archetype should be ascribed.

The question of regnal year in an inscription appears to have been sometimes given undue importance, vitiating even the objective assessment of the temple as a structure of a specific character. The fact that a particular chieftain or ruling house quotes the regnal year of its titular overlord or temporary suzerain should not have any significance for the architectural formulations, all the more so, if the region of the temple is well separated

from the parental zone of the overlord. But when a mere adoption of a regnal year by any chieftain is taken as almost a clinching evidence of the temple having been built by or within the full and direct knowledge of the overlord, or at his initiative, it is too far-fetched to be seriously argued against. A Muttarayar chief builds a typical local-style temple, though yet under the distant control of the Pallavas; similarly an Irukkuveḷ chief or patron, though quoting the Coḷa regnal year, need not be under obligation to erect a temple of a specific style—and indeed should be following the Irukkuveḷ regional style. In fact, one should even be able to concede that in the parent country of the Coḷas themselves, for example, there could be temples which do not conform to Coḷa norms, but are rather closer if not identical with the Muttarayar or Irukkuveḷ style.

Thus considered, an objective approach is introduced which is not unduly overpowered by the mere formality of dating records in the regnal year of the suzerain. This is an important factor one has to keep in mind particularly in the assessment of the so-called "early Coḷa" temples, since there is a certain readiness in assuming that political sway would result in the mortgaging of the artistic potential of the subordinate, however individualistic his region might be. This is, as would be noted, one of the guiding factors in the analysis made in this paper.

It is seemingly simple enough to take all the standing temples in the present Coḷa country as the creations of the Coḷas, by the glory which this dynasty acquired posteriorly, but it would not only be attended by a wrong reading of the diversity and the plurality of art idioms which never followed a line course, but also be an anachronism to father upon a dynasty achievements they were themselves not found equal to perform before they came into their own. In the sequel, a re-consideration of the central and collateral trends in art stimulus is called for to break the deadlock of architectural formulations being strait-jacketed into an incompatible political framework, and such has been made in these pages which should serve as the working base for understanding the other less known developments.

The important implications of this study are:

(1) The Pallavas, after the degeneration of their sandstone structural architecture, increasingly took to the stone and brick medium since they were unable to cope with stone (particularly granite) for very large and complicated temples. This became a norm for a time everywhere.

(2) The Pāṇḍyas, and to some extant the Irukkuveḷs and Muttarayars, started building in granite and evolved some basic patterns of

eka-, dvi- and *tri-tala* temples. The popularity of these supplanted the earlier vogue of the Pallavas, so much so that the temples of the following two centuries are entirely of stone.

(3) The temple units after this stage multiplied considerably, beyond the cella and the front *maṇḍapa,* and brought, in their wake, a return to the mixed stone-and-brick style for the *gopuras, prākāras,* and even *vimāna* superstructures. The development of canonical and Agamic discipline in temple-building aided in the restriction on the main temple stature, and attention was diverted to the ancillary structures.

(4) The conversion of early brick temples into those with stone veneer, left clinching internal evidences in the placement of the *praṇālas* or the *vārimārgas,* in the changed context, and this should serve as one of the dependable and sure guides to their quondam character.

It may be mentioned in passing that the Gaṅgas had specialized in an all-brick tradition, and had continued in it for a longer time than others, due largely to the absence of good stone in some areas. The Irukkuveḷs copied as much the all-stone style of the Pāṇḍyas and the brick-and-stone style of the Pallavas in their home country, as the all-brick styles of the Gaṅgas in some of their temples in the Koṅgu country. This explains the truly classical temples that are almost entirely in brick, as the Mahimaleś-varam of Erode, Vellalur, Vijayamaṅgalam etc. The prevalence of the square *liṅgapīṭha* in the last two would perhaps show its deep rooted affiliations, since the Irukkuveḷs in their own temples almost invariably followed the circular *liṅgapīṭha* (of the later Pallavas and subsequently of the Coḷas), rather than the square.

Thus, the stylistic features, the character of the socle and the *praṇāla,* the shape of the *śikhara* and the *liṅgapīṭha* in the sanctum of the temple, have all to be integrated with the historical details supplied by the inscriptions before we can claim to have done justice to the architectural integrity of the styles we come across in the areas brought under the imperial Coḷa dynasty from the time of Rājarāja I. Otherwise, we shall err grievously in a meaningful estimation of the architectural idioms and shall follow a *political* yardstick instead of a cultural one. This is the very error one is expected to avoid in excluding a dynastic bias for temple styles at various stages; as can be seen, the archetypes or models conforming to various regional usages fully corroborate this approach.

The difficulties in the way of such an approach have been somewhat

accentuated by the myths and legends that tended to envelope the temples and their sanctity in the later periods. They made certain groupings which had no bearing upon their architectural or stylistic features but only on some mythical associations. The best example of such a trend is the categorization of the eight Vīraṭṭāna (Vīrasthāna) *kṣetras* where heroic acts are held to have been performed by Śiva. They include the Vīraṭṭāneśvara temple at Tiruttani, Kilur, Tiruvadigai, Kandiyur, Tirukkurukkai, Valuvur and Tirukkadavur. It does not require much scrutiny to note that these places are not only geographically disparate, but stylistically unrelated, not to mention the fact that they are chronologically variant. The Vīraṭṭāna mantle, however, has conferred upon these a hypothetical unity which could be artistically misleading. The other equally fallacious example, but on a much more localized provenance, is the Saptasthāna temples in the Kaveri valley around Tiruvaiyar, comprising apart from this place, Kandiyur, Tiruppalanam, Tiruvedikkudi, Tiruchchatturai, Tillaisthanam and Tiruppunturutti. These seven, despite their reasonable nearness are diverse in style (as would be seen from the body of this paper), and their legendary and arbitrary grouping tends to camouflage their architectural distinctiveness. They are even taken by some workers as basis enough for being considered not only all alike, and contemporary, but Coḷa above all. If the present study can inspire a fresh and pragmatic approach to the ancient structural temple styles of Tamil Nad, its aim will have been fulfilled.

Table IV

TENTATIVE SYNCHRONISTIC CHART OF TEMPLE MODELS

DATE	SITES			
	PĀṆḌYA	IRUKKUVEḶ	MUTTARAYAR	COḶA
965				Tiruverambur
950		Kodumbalur (Mucukundeśvaram)		Koviladi
935	Korkai(?)	Andanallur		
920		Tirukkattalai		
905				Kuhur
				Valikandapuram
				Tiruvisalur
				Lalgudi
				Kilayur (Coḷiśvaram)
		Tiruchchendurai		

Table IV—*Contd.*

DATE	SITES			
	PĀṆḌYAN	IRUKKUVEḶ	MUTTARAYAR	COḶA
890	Tiruvalisvaram			
	Tiruppattur	Srinivasanallur		
	Tiruvaiyaru	Erode, (Mahima-leśvaram)		
	Kumbakonam			
	Tiruppunturutti			
875	Kovilpatti (socle)	Kilayur (Agastīśvaram)		
	Ambasamudram	Kodumbalur (Muvarkoil)	Tillaisthanam Tiruchchatturai	
	Ukkirankottai		Tiruchchennampundi	
			Kilattanayam	
			Nemam	
860	Enadi		Sendalai	
	Visalur		Kiranur	
	Tiruppur			
	Kaliyapatti		Kannanur	
	Panangudi		Viralur	
			Nangavaram	
845	Uttarakosamangai (Umā-Maheśvara)		Narttamalai (Vijayālaya-colīśvaram)	
	Sivalapperi			
	Gangaikondan			
830	Madurai (Kudal Alagar)			
	Tirukkostiyur	Kodumbalur (Aivarkoil)		
815	Tirukkurungudi			
800	Kalugumalai (monolithic)			
785				

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ŚRĪ VIṢAMAṄGALEŚVARAR TEMPLE AT TURAIYUR

(Plates 154—162)

I. INTRODUCTION

The Coḷas of the Vijayālaya House of Tanjavur were the greatest of South Indian dynasts; and they ruled the land for more than four hundred years (*c.* A.D. 850-1270). In art and architecture, they made many contributions which are among the great art treasures of the world.

The Coḷa style may be divided into three periods: the Early Period (A.D. 850-985); the Middle Period (A.D. 985-1070), and the Last Period (A.D. 1070-1270).

The temple under discussion belongs to the Early Period. Great progress in temple building was witnessed during this span of time. The structures were small but elegant and artistic; and their stone sculptures are exquisite in quality.

The temples were of three types: those with a single shrine, those with twin shrines (*vimāna-dvayam,* for example like the temple at Kilaiyur alias Perum-Paluvur) and those with triple shrines (*vimāna-trayam,* for example like the Muvarkoil, Kodumbalur). In the vertical plane, these *vimānas* were of one to four storeys *(talas).*

The *devakoṣṭhas* on the outer walls of the *śrīvimāna* have fine sculptures; in some there are three sculptures namely Dakṣiṇāmūrti, Viṣṇu and Brahmā. In some two more figures are added, those of Gaṇapati and Durgā. The greatest departure from this arrangement takes place during the period of Āditya I: the change is especially noticeable in the back niche. In the place of Viṣṇu, we have Ardhanārī, Subrahmaṇya (standing or seated), Harihara and Śiva-Pārvatī *(āliṅganamūrti).* The Liṅgodbhava is generally favored in the days of Parāntaka I.

Sembiyan Mahādevī, the queen of Gaṇḍarāditya and the mother of

Uttama Coḷa, was responsible for the construction of a large number of temples during the latter half of the tenth century. Generally these temples have nine *devakoṣṭha* sculptures on the *śrīvimāna;* these are images of Agastya, Gaṇapati, Naṭarāja, Dakṣiṇāmūrti, Liṅgodbhava, Brahmā, Bhikṣāṭana, Durgā and Ardhanārī.

It is against this background that the temple of Śrī Viṣamaṅgaleśvarar should be studied.

II. THE SITE

Turaiyur is a village on the northern bank of the Coleroon (Kollidam) in the Lalgudi Taluk, Tiruchy District, and eight miles and seven furlongs away from Tiruchy town itself. Its ancient name was Tuḍaiyur and, according to the *Annual Report on South Indian Epigraphy,* Turaiyur. The village has a temple now known as Viṣamaṅgaleśvarar (Pl. 154), but the inscriptions on one of its walls reveal that it was named Mūlasthānathupaparameśvarar or Tirukkaḍambaturai Uḍaiya Mahādevar at Tuḍaiyur, a *brahmadeya* in Maḷanāḍu on the northern bank of the Kaveri-Coleroon.

III. INSCRIPTIONS

There are five inscriptions on the walls of this temple, details of which have been provided separately in Appendix A, *infra* p. 306.

1. Of the fifth year of a certain Rājakesarivarman;
2. Of the eleventh year of Rājarāja I;
3. Of the fifth year of Rājendra I;
4. Of the eighth year of Rājendra I; and
5. Of the seventh year of Vīra Rājendra.

None of these inscriptions, however, relates to the foundation of the temple. That of Rājakesarivarman is probably the earliest, as the Periyadevar whose eighteenth year is referred to in it is probably Parāntaka I (A.D. 907-55). If this is correct, the inscription itself may be assigned to the period of Rājakesarivarman Gaṇḍarāditya (*c.* A.D. 949-57). The temple itself, as will be evident from the discussion, seems to have been built in the days of Āditya I. This king, in the Anbil plates of Sundara Coḷa, claims to have erected stone temples to Śiva on both banks of the Kaveri, and extending from the Western Ghats to the eastern sea.

IV. DESCRIPTION OF THE TEMPLE

The temple, which faces east, is an *ekatala* structure and consists of a *vimāna* and an *ardhamaṇḍapa*. The sanctum stands on a high *adhiṣṭhāna* with plain moldings. The *garbhagṛha* is surmounted by the *grīvā*, the *śikhara* (*aṣṭāśra* type), and the *stūpī*, the last two being restorations. It has five *devakoṣṭhas*, three on the outer walls of the *garbhagṛha* and two on those of the *ardhamaṇḍapa*. The variety and disposition of the sculptures is unique in the whole Coḷa tradition.

V. ICONOGRAPHY

Starting from the eastern end of the south *prākāra*, we have Sarasvatī, seated in *padmāsana*, in the easternmost niche (Pl. 155). Over her head is a *chattra*. She is crowned with a *karaṇḍamukuṭa*, and wears very large *kuṇḍalas*, a *kaṇṭhī*, *a yajñopavīta* that falls between the breasts, *keyūras* and *valayas*. In her four hands she holds what appears to be a *pustaka*, a *puṇḍarīka*, a *kamaṇḍalu* and an *akṣamālā*. There is a *prabhāvalī* with flames behind her head.

A beautiful image of Sarasvatī was installed by Rājarāja I in the famous Rājarājeśvara temple at Tanjavur. His son Rājendra I installed another Sarasvatī image in the Gaṅgaikoṇḍacoḷīśvara temple. The Turaiyur image, however, seems to be the earliest known Coḷa sculpture of the Goddess. In addition — and this an interesting point — she is installed in the niche usually reserved for Gaṇapati.

In the next niche (south wall, *garbhagṛha*) is a standing figure of Vīṇādhara Dakṣiṇāmūrti (Pl. 156); two of the four hands hold the *paraśu* and the *mṛga* and the other two, the *vīṇā*. He is adorned with *keyūras*, *valayas*, *kuṇḍalas* and an *udarabandha*. The *dhotī*, close to the waist, has a loop in front and a knot on the left side. Two *gaṇas (ṛṣis)* are shown, one on each side. Similar sculptures are found in neighboring temples belonging to the age of Āditya I. Those in the southern *devakoṣṭha* of the Saptarṣīśvara temple at Lalgudi, and in the western niche of the *grīvā* over the second *tala* of the Agastīśvara shrine (Avanikandarpa Īśvaragṛham), at Kilaiyur[1] are notable examples.

The western niche contains a Śiva-Pārvatī image (Pl. 157). The choice of the sculpture in the rear niche (generally western) of a Śiva temple

1 See my *Early Chola Art*, Part I, Bombay 1966, p. 1.

in the period of Āditya I is varied; it is either Viṣṇu, Ardhanārīśvara, Subrahmaṇya, or, as here, Śiva-Pārvatī *(ālińganamūrti)*. In the days of Parāntaka I, it is generally Liṅgodbhava. The Mayūranāthasvāmī temple, Mayavaram (Mayuram) is an ancient edifice renovated by Sembiyan Mahādevī and a Śiva-Pārvatī image was installed in a southern niche at the time of its restoration. A modern restoration has once again changed the disposition of the *devakoṣṭha* sculptures.

The north wall of the sanctum has a niche with an image of Brahmā, who has four arms and three (visible) heads. He wears diaphanous drapery, the parallel lines of the folds and the raised edge at the bottom being clearly chiselled.

The next *devakoṣṭha,* on the north side of the *ardhamaṇḍapa,* contains an exquisite image of Durgā. She is standing and is without Mahiṣāsura (Pl. 158). Her dress is similar to that worn by the other *devakoṣṭha* figures of this temple. She wears a *karaṇḍamukuṭa,* heavy *kuṇḍalas,* a *kucabandha* and a *channavīra.* The *prabhāvalī,* with three-tongued flames at the edges, is similar to that of the seated Subrahmaṇya sculpture in the eastern niche (rear) of the Coḷīśvara shrine, Kilaiyur, which also belongs to the days of Āditya I.[2]

A sculpture of Caṇḍeśvara *(a parivāra-devatā)* is housed in a shrine to the north of the main one. A group of eight *parivāra-devatās* must have existed here in the past, but the other figures of the group have now disappeared.

A sculpture of Naṭarāja in *ānandatāṇḍava* is chiselled on the pilaster at the rear of the sanctum (Pl. 159). Above the God are two flying *gandharvas* and below two *gaṇas* — one playing on the *kuḍamuḷā* and the other on a pair of cymbals. A similar sculpture in the Koraṅganātha temple at Srinivasanallur also dates to the period of Āditya I. It is contended that Naṭarāja in this form is unknown before the days of Parāntaka I, but this is incorrect. At Siyamangalam (late seventh century), too, there is a figure of a dancing Śiva, much like the *ānanḍatāṇḍava* form except that the left arm is in the *lolahasta* pose instead of being held across the body.

On both sides of the entrance to the *ardhamaṇḍapa* are a pair of two-armed *dvārapālas.* An ornamental *nāsikā* (Pl. 160), and a *koṣṭha-pañjara* (Pl. 161) close to the *devakoṣṭha* on the sanctum are other features that deserve mention. The square base, the octagonal *kāl,* the *laśuna,* the *kumuda,*

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[2] See my *Four Chola Temples,* Bombay 1963, Avani-Kandarpa Īśvaragṛham, Kilaiyur alias Melappaluvur.

the *padma,* the *phalaka,* the *bodhikā* (corbel) with a roll-ornament *(tarañga)* and a central ornamental band, the *kapota* with two *nāsikās* in front, and the *vallī* at the edges, a *bhūtagaṇa* frieze below and a *vyāla* frieze above the *kapota,* are well brought out. The *koṣṭha* figures in the *grīvā* portion of the sanctum are Bālasubrahmaṇya in the east, Dakṣiṇāmūrti in the south and Viṣṇu in the west (Pl. 162). On the plain surface surrounding the *grīvā,* are figures of Vṛṣa placed at the corners.

In the premises of the temple is a loose slab bearing figures of Viṣṇu with Śrīdevī and Bhūdevī. Its provenance is not known. It may be contemporaneous or slightly earlier.

Though a humble structure, the richness and variety of the *devakoṣṭha* figures make this stone edifice of the days of Āditya I unique in the art history of the Early Coḷa period.

The author is indebted to the Institut Francais d'Indologie, Pondicherry, and in particular to Sri P.Z. Pattabiramin, for the facilities given him to study the temple and for supplying him the illustrations.

APPENDIX A

List of Inscriptions in the Śrī Viṣamaṅgaleśvarar Temple

These inscriptions are all from the *Annual Report on South Indian Epigraphy for the year 1937-38.*

1. North wall, central shrine. No. 158. Fifth year of Rājakesarivarman: Gift of money by one Velan Gaṇavadi of Vaṭṭalai Kūḍal for a twilight lamp in the temple for the expiation of the sin of having killed Āchchan Sūrri, the headman of Kiḷinallūr. The money was utilized for reclaiming land belonging to the temple which had been silted with sand in the eighteenth year of Periyadevar (Parāntaka I?). This inscription of the fifth year of Rājakesarivarman (*c.* A.D. 954) is attributable to Gaṇḍarāditya, a son of Parāntaka I and his successor to the Coḷa throne.

On the same wall is found a portion of the historical introduction of Rājarāja II (with Pu-Maruviya introduction).

2. South wall, central shrine. No. 156. Eleventh year of Rājarāja Rājakesarivarman I, who destroyed the ships at Śalai (*c.* A.D. 996): Gift of land by purchase by Nārāyaṇa Ādithan, a brahmin of Tuḍaiyur for worship and offerings during the *uttarāyaṇa* and *daksiṇāyana saṅkramaṇas* to the Mūlasthānattu Parameśvarar at Tuḍaiyur, a *brahmadeya* in *Maḷanāḍu.*

3. North wall, central shrine. No. 159. Fifth year of Parakesarivarman Rājendra I (*c.* A.D. 1017) (*Tirumannivalara* introduction): Gift of land by Māśi Araiyan Piranderumān of Kodumbalur in Paṭṭanakkūrram, a subdivision of Kṣatriya Śikhāmaṇi Vaḷanāḍu for offerings and worship and for feeding 100 brahmins in the temple of Tiruk Koḍambaturai Uḍaiya Mahādeva on certain days.

4. South and west walls, central shrine. No. 157. Eighth year (in words) Parakesarivarman alias Rājendra Coḷa Deva I (*c.* A.D. 1020) (*Tirumannivalara* introduction): Gift of tax-free land by one Nārāyaṇa Nakkapiran of Seyjalur in Rājarāja Caturvedimaṅgalam, a *brahmadeya* in Uṛaiyur Kūrram, a sub-division of Keralāntaka Valanāḍu to a brahmin for reciting the Śrī Rudra during the morning service in the temple of Tuḍaiyur and for teaching the Vedas to the students there during the rest of the day.

5. North wall, central shrine. No. 160. Seventh year of Vīra Rājendra Coḷadeva, a highly damaged record: perhaps registers a gift of land.

K.G. KRISHNAN

ARCHITECTURAL TERMS IN SOUTH INDIAN TEMPLE INSCRIPTIONS

I. A DISCUSSION ON THE MORE IMPORTANT TERMS

South Indian temple inscriptions are a mine of information on all aspects of our heritage including architecture. These inscriptions are large in number and are in various languages. Published notices, however, do not always give information of interest to scholars of architecture. I am engaged in a study that tries to set this right and have great pleasure in presenting some preliminary findings at this gathering. A few terms have been discussed and a small glossary, relying mainly on Tamil inscriptions, has been appended to the paper.

Śrīvimāna, a well known term, is wrongly taken to refer only to the superstructure of the central shrine, for it really denotes the entire structure from *upāna* to *stūpī,* or, as stated more accurately by Balasubrahmanyam, "the sanctum together with its superstructure (from the *upapīṭha* to the *stūpī*)."[1] The expression *upānādi stūpī paryantam,* "from the *upāna* to the *stūpī,*" is found in an inscription of A.D. 1464 — which, however, does not use the word *śrīvimāna,* as do some inscriptions from Tirukkodikaval of about the tenth century A.D. These state that as the texts of the old inscriptions had been re-engraved on the *śrīvimāna,* the stray stones from which they were copied were thrown away. As inscriptions are never engraved on the superstructure but only on the walls and tiers of the *garbhagṛha* it is clear that *śrīvimāna* cannot just mean the superstructure. The expression *palaiya śrīvimānattu jagatippaḍaiyil,* "on the *jagatippaḍai* of the former *śrīvimāna,*" which has been found in another inscription, confirms this conclusion.

The suffix *paḍai* is interesting. The root *paḍu* or words derived from it indicate anything that was created or destroyed. We come across the term in Tamil literature;[2] and in an architectural context it is found in

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[1] S.R. Balasubrahmanyam, *Early Chola Art,* Bombay 1966, Glossary, *s.v.*

[2] *Peruṅgaḍai,* Ilāvāṇa, 5, 41.

inscriptions from about the beginning of the tenth century where it seems to refer to those sections of the wall of the central shrine which are situated between the pilasters.

Instances are not wanting when donors took care to get a record engraved on that particular section of the temple which was their own contribution. From these we learn that all parts from the plinth up to the cornice were designated with reference to the word *paḍai,* such as *jagatippaḍai, kumudappaḍai, kuḍappaḍai, paṭṭigaipaḍai, kaṇḍappaḍai, palagaip-paḍai, kāl-paḍai, tāḍippaḍai,* and *podigaippaḍai.* I also draw your attention to the term *vāḷagat-tāḍippaḍai* though its exact import is not clear. The word *paḍippaḍai* is used for the steps of an entrance into a shrine. Where some of these words are all used together, the suffix *paḍai* is dispensed with (*South Indian Inscriptions* V, 588).

In the order of their enumeration the terms I have just mentioned refer respectively to the plain-surface tier *(jagatī),* the inverted lotus-shaped molding immediately above the *jagatī (kumudam),* the molding worked into a convex as a pot *(kuḍam),* a simple beltlike projecting sheet above the neck *(paṭṭigai)* often referred to by writers as *kapota,* the neck below and above the *paṭṭigai (kaṇḍam),* the sheet of stone corresponding to the flooring inside *(palagai),* the pilaster *(kāl),* the part between the pilaster and the corbel, the *(tāḍi)* and the corbel *(podigai),* Other terms referring to the intermediary parts not enumerated above are *vāri, munai uttiram* and *viṛkaṇḍam,* and they are never seen used with the suffix *paḍai.* In early constructions the *kumudappaḍai* is not traceable separately, though the design of a *kumuda* is drawn on the horizontal surface of what may be called *kuḍappaḍai* (Mallikārjuna temple, Dharmapuri, Salem District). This latter molding is more often fashioned in octagonal form, which the *vāstu-śāstras* call *tripaṭṭa kumuda* (Nāgeśvara temple, Kumbhakonam, Tanjavur District. The *kuḍappaḍai,* which is left plain in Gangaikondacholapuram, has immediately below it a curved molding, which suggests the fullfledged *kumudappaḍai* in the temples at Dharmapuri and Darasuram. The latter temple has introduced *kumudam* distinctly and separately between the *kuḍam* and *jagatī.* In this case the *jagatī* tends to be far less prominent than in the earlier shrines. The central shrine of the Mallikārjunasvāmī temple at Dharmapuri also has both *kuḍa* and *kumuda* at the corners. Here again the *kuḍappaḍai* bears the lotus petal designs carved both above and below its molding. The term *kuḍappaḍai* is met with only once, in an inscription dated in the thirty eight year (A.D. 944-45) in the reign of Parāntaka I from Tiruvaduturai in Tanjavur District. It says that the king visited the

temple to worship the Deity, and having seen the construction of the temple in progress, gave 500 *kaḷañju* of gold for further construction, from the *kuḍappaḍai* upwards. Evidently, the structure was originally in brick and the construction in stone had come up to *kuḍappaḍai* when Parāntaka I made the gift.[3] Instead of taking *palagaippaḍai* as indicating the better known abacus, I have preferred to interpret it as the topmost projecting part of the base corresponding to the floor of the building inside, on the basis of an inscription dated A.D. 1222-23 which refers to the setting up of images of Vināyaka and Subrahmaṇya on the *palagaippaḍai* outside the jamb of the entrance of the hill temple at Tirukkalukkunram, Chingleput District. It is obvious that here *palagai* does not refer to the abacus, where images are not installed.[4] This abacus seems to be referred to as *udar-palagai.*

Jagatī, kumudam, kuḍam, paṭṭigai, kaṇḍam and *palagai* refer to features which together constitute what the inscriptions call *adhiṣṭhāna.* An inscription from Nattamangudi, Tiruchirapalli District, dated in the thirty-eighth year of the Coḷa Kulottuṅga III's reign (A.D. 1215) and engraved on the "base" of the three walls, tells us that as the old *jagatī* was demolished and rebuilt, the local authorities ordered the re-engraving of the inscription on the old *vimāna's jagatippaḍai* on the new *jagatippaḍai.* It also tells us that the brick construction above the *adhiṣṭhāna* was dilapidated.

Gopura: It is well known that the *gopura* has evolved from a simple gate on the enclosure, called *vāśal* with the prefix *tiru.* When this gateway expanded, it became a full-fledged *gopura.* The superstructure of this gate began to have what is called a *nilai* (storey). We get a reference to *muṉṟuni-laiyir gopuram, gopura* with three storeys, though of a later age. The maximum number appears to be nine referred to as *navadvāra-gopura* which is again of late occurrence. But we have numerous references to the *gopura* with seven storeys from the medieval period as *nilai eḷu gopuram* often with the prefix *tiru.* A recent writer has erroneously taken this expression occurring at Chidambaram as *eḷugopura* and interpreted it as a reference to the conventional five or seven *gopuras.*[5] As a matter of fact all the references to

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[3] Douglas Barrett, *Early Cola Bronzes,* Bombay 1965, p. 7; Balasubrahmanyam, *Early Chola Art,* pp. 254-5 : The observations made in respect of this will have to be modified accordingly by the authors.

[4] These images (bracket figures), as far as inscriptional evidence is concerned, were never known to have been worshipped.

[5] James C. Harle, *Temple Gateways in South India,* Oxford 1963, pp. 63-64.

nilai-eḷu-gopura in the Chidambaram inscriptions denote the high towering *gopuras* with seven storeys. Their dating has to be revised accordingly. A street in Chidambaram where merchants resided was called after one of these *gopuras nilai-eḷu-gopurap peruntevuru. Nilai-eḷu-gopuram* occurs also in Oṭṭak-Kuttan's *Koluttuṅga-śolan-ula* (a work on Kulottuṅga II) and *Takka-yāgaparaṇi.*[6] The same expression changed into *eḷu-nilai gopura* in a later inscription.

Here are a few terms pertaining to building practices. Cementing of stones is referred to as *kaṛpuṇar* (*puṇar,* "joint"). The word *jeṭibandhanam* is used in a late inscription. Its meaning is not clear. Coating of the walls is indicated by *cāndu* for which the use of palm jaggery is mentioned. The numerous large stone temples in Tanjavur District have often made us wonder as to the source of the stone for their construction. An inscription from Udaiyarkovil near Tanjavur refers to a possible source for the stones — Kiḷḷiyurmalai in Nodiyurpaṭṭaṇam. This place cannot, however, be identified at present.

This inscription is interesting in another way too: It reads that the *pīṭha* of the *liṅga* made of *sudhā (śudai)* had to be renovated annually with a raw or wet solution *(paśuṅkūṭṭu)*, and the leftovers of the daily worship accumulated, causing much inconvenience. Arrangements were then made for the erection of a *pīṭha* made out of stones brought from Kiḷḷiyurmalai. The Śaivācāryas could not perform the erection of the *pīṭha*. Then the *taccācāri* (stone mason) of the temple did it at their request, for which he was endowed with land by the authorities of the temple of Tirukkiḷāvuḍaiyār, now called Karavandīśvara. This temple and the village Udaiyarkovil formed the heart of the famous Tribhuvanamahādevīc-caturvedimaṅgalam founded by Rājendra I (see his Karandai Tamil Saṅgam Plates)[7], and made up of fifty-six villages around.

II. GLOSSARY

The following usages are to be noted. Of the two numbers that follow the term, the first gives the number of the inscription and the second the year; for example, 1938-39 is given as /39 of Collection. Then follows a definition, and/or extracts from texts, wherever they are likely to help us

[6] Couplets 94 and 809, respectively.

[7] *A.R. Ep.*, 1948-49, A. Nos. 57 and 58.

understand the term. The probable date is given at the end.

adhiṣṭhāna	145/29. The socle of the *vimāna* from the plinth to the beginning of the pilastered wall. A.D. 1216.
aganāḻigai	278/28. Thirteenth cent. Same as *tiruvuṇṇāḻigai.* 233/33, the inner parts of the shrine proper. *c.* A.D. 950.
ambalam	383/38. Hall. Twelfth cent. 152/37. Eleventh cent. 187/43-44. Thirteenth cent. 202/36. Tenth cent. 240/29. A.D. 1046.
aṅgula, vitasti, daṇḍaka	659/20. Half of the circumference of the thumb is an *aṅgula;* 12 *aṅgulas* are 1 *vitasti;* 32 *vitastis* are 1 *daṇḍaka.* Late medieval.
aṅkaṇa	429/39. *Maṇḍapa* of 20 *aṅkaṇas,* same as *patti(?)* Late.
ardhamaṇḍapa	140/42. Tamil *tiruv-iḍaikkaṭṭu.* Tenth cent.
cāḻagam	See *jālaka.*
cāḻaram	*SII,* IV, No. 458, same as *jālaka.* A.D. 1129.
cāndu	233/41. Thirteenth cent. 207/31, *tirumaṇḍapam cānd-iḍa karuppukkaṭṭi koḻḻa vāngi* (plaster). A.D. 1216-17.
catuṣkikai	*SII,* II, p. 87. Portico. Tenth-eleventh cent.
ceṇḍuvāyil	*SII,* III, p. 14. "Hippodrome gate" — better, entrance into the *prākāra.* A.D. 1008-09.
ceṇḍuveḻi	35/41. Open circuit round the temple, that is, *prākāra. c.* A.D. 1200.
cittiragaṇḍakkāl	59/47. Pillar with ornamentation. Fourteenth cent.
cuṇṇam (Telugu *sunnam*)	274/30. Lime. Modern.
curṟālai (with prefix *tiru*)	261/44. *Prākāra.* A.D. 938. *SII,* III, No. 15, A.D. 1013-14.
eḍuttukkaṭṭi (with *tiru*)	200/41. Wall. A.D. 1211. 184/40 A.D. 1225.
eḻunilai gopura	252/31. *Gopura* with 7 storeys. A.D. 1722.
garuḍastambha	316/35. A.D. 1440.

gomukai 313/41. Engraved on the gargoyle. Thirteenth cent.

gopura Gate with storeyed superstructure: see *eḷunilai* and *nilai-eḷu-gopura*.

iḍaikaṭṭu (with *tiru*) 202/29. Engraved on *ardhamaṇḍapa*. Tenth cent.

iṭṭigai 86/28. Brick. A.D. 1164-65.

jagati (Telugu) 95/30. Platform (?). A.D. 1425.

jagatippaḍai *SII*, II, p. 21. Inscription engraved on the Caṇḍeśvara shrine of the Bṛhadīśvara temple. A.D. 1001-02. 228/37, on basement. AD. 1213. 229/37, on basement. Thirteenth cent. 275/37, *jagatippaḍai nārcāramum agavāy uṭpaḍa*. A.D. 1264.

jālaka 298/44. Latticed window, engraved nearby, *tiruccālakam*. Fourteenth cent. 145/32. Engraved on the window. Thirteenth cent. 65/35. Fourteenth cent.

jayastambha 32/30. Late.

jeṭibandhanam 359/30. A.D. 1792.

kāl 202/44. Pillar. Thirteenth cent. 5/32. Thirteenth cent. 92/33. *tuṇ*. Tenth cent. 276/29. *tuṇ*. Thirteenth cent.

kalaśa *SII*, II, p. 3. A.D. 1008-09. 21/30. A.D. 1255.

kalgārābharaṇācārya 35/30. Title of a stone mason (*kālkāra*)? Eighth cent.

kalkārat-tiruppaṇi 115/34. Work in stone. A.D. 1260. 35/41. Twelfth cent. 407/29. *kalkāram*. A.D. 1383.

kallūri *SII*, II, p. 109. Some stone construction. *SII*, III, p. 14. A.D. 1008-09.

kāl-paḍai 127/26. Pilastered wall. *Tirukkoyil vāṅga kāl-paḍai maṭṭañ-cheyvittu*. Tenth cent. 198/41. *Mudaṟkāṟpaḍai*. A.D. 1179.

kalyāṇa-vedī 9/30. A.D. 1435.

kaṇḍappaḍai *SII*, II, p. 21, 87. A.D. 1008-09.

kaṟkavi 134/43. Eave-cornice (?). Twelfth cent.

kaṟpuṇar 118/43. Jointing. Tenth cent.

kaṟṟaḷippuṟam 45/29. Endowment for the construction and/or maintenance of the stone temple. Thirteenth cent.

karukku	*SII,* II, pp. 5, 11. Bas-relief as applied to ornament; also applicable to architecture. A.D. 1008-09.
kāṣṭhakāra	*SII,* III, p. 321. Carpenter. Tenth cent.
kavāṭam	128/34. *vāśal kavāṭam* (door). A.D. 1287.
koṭa (Telugu)	26/30. *Prākāra* wall. A.D. 1287.
kuḍappāḍai	143/25. *Ālvārai perumāḷ tiruvaḍi toḻudu tirukkaṟṟaḷi ceykiṉṟadu kaṇḍaruli tirukkaṟṟali ceyya udakapūrvvanceyda (poṉ) aiññūṟṟukkaḷaiñju ippoṉ koṇḍu kuḍappaḍaiye piḍittu mel ceykiṉṟaḍu Śrī Parāntakadevar poṉṉāl cheykiṉṟa paṇi* — convex tier in the base. A.D. 945.
kumudappaḍai	201/37. On the tier shaped as an inverted lotus or with a design of lotus petal carved upon it. A.D. 1547. *SII,* V, 588, *kumudam.* Tenth cent.
kuṟaḍu	8/31. Platform. Modern. *SII,* IV, 222. *Tiruvedir-ambalattuk-kuṟaḍu poṉ ceyyumiḍattu,* roof. Thirteenth cent.
kurakkuttaḷi	*SII,* V, 250. A.D. 1204.
madhyaraṅgam	274/31. Modern.
makaratoraṇa	274/29. For a lamp on the *toraṇa.* Nāyaka.
mānastambha (Jaina)	517/38. A.D. 1578-79.
maṇḍapas	Their names:
abhiṣēka-	108/42. A.D. 992-93; 261/26. A.D. 1149.
adiravīsiāḍuvār	
Naṭarāja	187/44. Thirteenth cent.
alaṅkāra-	2/32. Thirteenth cent. 270/30.
bhöga-	309/38. Fifteenth cent. 331/31. Vijayanagara.
cittira-	(16-pillared.) Painted or embellished (?). 91/25. A.D. 1002; 348/40. A.D. 1457.
eḻuttu-	243/41. Office or record room. Thirteenth cent.
kudirai-	172/27. Thirteenth cent.
mahā-	140/42. Tenth cent; 230/31. Early Vijayanagara; 407/29. Brick into stone. A.D. 1383.
namana-	Same as *abhiṣeka. SII,* V, 588. Tenth cent.
Nandi-	103/36. Twelfth cent.
nīrāvi-	316/23. Twelfth cent.

nṛtta-	43/35. Late; 166-71/35. Thirteenth cent.
	36/25. Late; 197-26. A.D. 1630.
nūṟṟukkāl-	149/33. A.D. 1213.
snapana-	203/41 of Naṭarāja. For bathing. Fourteenth cent. 205/31. Renovated early Vijayanagara. See *namana-*.
sopāna-	130/43. A.D. 1437.
tavana-	223/44 of *tirumuṟṟam*. Thirteenth cent.
tiruppū-	1/36. For flowers (?). A.D. 1240.
tiruvolakka-	158/44. For holding court. Twelfth cent.
	219/29. A.D. 1124; 243/28. Vijayanagara.
uśal- (with *tiru*)	188/23. For swing. Late.
utsava-	197/35. Fourteenth cent.
marakkoppu	230/31. Construction in wood. Early Vijayanagara.
mugavaṇai	123/42. Façade (?), engraved on jamb. Fifteenth cent.
mukhamaṇḍapa	230/31. Early Vijayanagara.
mukkāl-vaṭṭam	459/29. Circular shrine with a break in the circle for an opening—hence called *mukkāl* (three-fourths) of a *vaṭṭam* (circle). All early temples in Kerala were so called in their inscriptions. See *T.A.S.* volumes. Tenth-eleventh cent.
mṛgapativadana	126/12. Eleventh cent.
nāgaram	Nāgaramahāraṇa, 60/44. Title of a mason. Fourteenth-fifteenth cent. (Mahāpatra).
nāsikā	126/12. Eleventh cent.
navadvāra gopura	407/33. A.D. 1806.
nīḍa	126/12. Carved part (niche). Eleventh cent.
nilai-eḻu-gopura	187/44. *Gopura* having 7 storeys. Thirteenth cent. *muṟṟunilaiyīr-gopuram.*
	185/30. A.D. 1726. *nilai-eḻugopurattiruvāśal. ASI,* IV, 229. A.D. 1295-96; *nilai-eḻugopurapperunteruvu.* 1/36. A.D. 1240.
nirmālyattoṭṭi	328/28. Engraved on a cistern for *nirmālya.* Thirteenth cent.
paḍai	202/31. Wall. Twelfth-thirteenth cent.
	106/25. Tenth cent.

pādapīṭha	148/40. Footstool or pedestal. Eleventh cent.
paḍi	198/41. Step. A.D. 1170; 188/33. Thirteenth cent.
paḍippaḍai	32/26. Thirteenth cent.
pākkal	434/29. Paving slabs. Vijayanagara.
palagaippaḍai	143/33. Images installed on — *vari?* corresponding to the floor level inside. A.D. 1223.
paḷḷikkaṭṭil	323/27. Bedstead. Eleventh cent.
paḷḷipaḍai	124/37. Shrine in memory of or over the dead. Thirteenth cent.
paśuṅkūṭṭu	*SII*, VII, 1031. Raw or wet solution (or herbal solution?). A.D. 1196.
patti	189/33. Span (see *aṅkaṇa*), *tirum āḷigaiyil ippatti iraṇḍum*. Thirteenth cent.
paṭṭigai	74, 76, 81/35. Beltlike stone tier around and below the base. Sixteenth cent. *SII*, V, 588. Tenth cent.
paṭṭigaippaḍai of *snapana-maṇḍapa*	3 cubits. 203/41. Fourteenth cent.
podigai	88/34. Corbel. Sixteenth cent. 276/29. Thirteenth cent. 155-6/29. Twelfth cent.
podigaippaḍai	198/41. Corbel. A.D. 1179.
prabhā	228/29. Thirteenth cent. See also *tiruvāsigai*.
pudukkuppuṟam	152/37. Endowment for renovation. Eleventh cent.
ṟachcha (Telugu)	103/30. Court-house. Tenth cent.
Śivaliṅga-calana	187/38. Thirteenth cent.
sopānam	149/33. Step. A.D. 1213. 278/28. Thirteenth cent.
śrīvimāna	9-39/31. Central shrine from *upāna* to *stūpī*, *idu paḷaiya kal-paḍi inda śrī-vimānattile eṟa veṭṭinamaiyil munn-iv-vāchakam veṭṭikkidanda tanikkallāl upayogam illāmaiyil adu tavirndadu*. Tenth cent. 145/29. *Paḷaiya śrīvimānattu jagatippadai*. A.D. 1216.
stūpittaṟi	*SII*, II, p. 3. Peg for pinnacle. The beam or sheet to support the *kalaśa*. A.D. 1008-09.
taccar	144/23. Mason. A.D. 1578; *kal-taccar*, 120/33. A.D. 1548.

tāḍippaḍai 127/26. Tenth cent.

taḷam 93/55. (Floor, not ceiling). Fourteenth cent.

taṭṭoḍu 197/35. *Tirumaṇḍapam taṭṭoḍu iṭṭa idukku talai arindu koḷḷugaiyil* — terraced or flat-tiled. Fourteenth cent.

tevaram 97/32. Shrine for private worship in palaces or monasteries. A.D. 1017. *SII,* VIII, No. 260. Thirteenth cent. *SII,* VIII, No. 675. A.D. 1035.

tirukkāmakkoṭṭam 233/41. Shrine for the principal female deity in a Śiva temple. Thirteenth cent. 53/34. Fourteenth cent. 69/29. A.D. 1183. 136/33. A.D. 1198.

tirukkāvaṇam 187/38. Arched hall or *maṇḍapa* covered or uncovered on the sides. Thirteenth cent. *Tirukkāvaṇapatti.* 348/40 A.D. 1457. *Tirukkāvaṇakkāl.* 139/29. Thirteenth cent.

tirumaḍaippaḷḷi 99/35. Kitchen. Thirteenth cent.

tirumaḍaiviḷāgam 204/41. A.D. 1263.

tirumāḍam 249/33. Type of shrine (?). A.D. 933; 250/33. *Tirumāḍattuk-kuṇaṇār.* A.D. 921.

tirumāḷigai Probably the same as *tirunadaimāḷigai,* covered or uncovered *prākāra.* 498/38. *Tirumāḷigai* near the *gopura.* Thirteenth cent. 100/36. A.D. 1184. 225-6/37. *Periyatirumāḷigai prākāra* A.D. 1196. 1/36. *Tirumāḷigaiyile kalveṭṭa.* A.D. 1240. 246/35, A.D. 1188. *SII,* IV, 222, *prākāra.* Thirteenth cent.

tirumeṟkoyil alias *ovinnagar emberuman tirumuṟṟam* (same as *tirumeṟṟaḷi*) 142/36. A.D. 1236. 254/31. Thirteenth-fourteenth cent. Since a Viṣṇu temple is erected usually in the western part of a village, it is called *mel* (western) *taḷi* (temple).

tirumuṟṟam 368/26. (Telugu) Written as *tirumuṭṭam,* courtyard. Fourteenth cent. 142/36. Temple. A.D. 1236.

tirunaḍaimāḷigai 229, 230/51. Covered or uncovered *prākāra* serving as processional (*naḍai*) path. Thirteenth cent. 62/33. A.D. 1195. 35/41. Twelfth cent. 7/33. A.D. 1242.

tirunilaikāl	123/42. Jamb. Fifteenth cent. 198/41. A.D. 1179. 193/36. Twelfth cent. 202/44. Thirteenth cent. 134/32, Late Coḷa.
tiruppū-palagai	270/44. Stone for garland-maker. Twelfth cent.
tiruvaraṅgu	120-21/35. Shrine or *maṇḍapa* for Naṭarāja, connected with Skt *raṅga* "stage".
tiruvāśal	100/36. Gate or entrance. A.D. 1184. 202/44. Thirteenth cent. 42/33. *Perumbaṟṟappuliyūril* (that is, Chidambaram) *melaittiruvāśal*. A.D 1234.
tiruvāśigai	263/35. *Prabhai āna tiruvāśigai*. A.D. 1416.
toraṇakkāl	*SII*, II, p. 143. (Wooden) pillar supporting an aureole. Tenth-eleventh cent.
tūṇ	See *kāl*.
tūṅgānai-māḍam	215-255/29. Equated with *gajapṛṣṭhavimāna*. Eleventh cent.
uḍaṟpalagai	198/41. Abacus (?). A.D. 1179.
upāna	164, 168/33. Thirteenth cent.
upāna to *stūpī*	306, 307/30. *Upānādi stūpī paryantaṁ āga pudukki*. A.D. 1464.
upapīṭha	*SII*, II, p. 21. Base of *adhiṣṭhāna*. A.D. 1008-09.
uṭla-khambālu (Telugu)	291/36. A.D. 1681.
uttiram	*SII*, II, p. 87 for *kapota* or *paṭṭigai* of the *adhiṣṭhāna*. A.D. 1008-09.
vākiṭi-mogasāla	308/37. Gate at the entrance to the town. A.D. 1741.
vaḷabhī	57/39. *Āvāra* in, window. Vijayanagara. 65/35. Fourteenth cent.
vāḷagattāḍippaḍai	139/26. Small but adequately strong piece that supports the abacus of a pillar. Tenth cent.
vari	198/41. Beltlike stone at the top of the *adhiṣṭhāna*. A.D. 1179.
varukum pani (Telugu)	96/30. Polishing. A.D. 1425.
viṟkāṇḍam	*SII*, V, 538. (Square necking figuring between *palagai* and *podigai* of a pillar. In South Indian Skt texts we find it spelt either as *vīrakaṇṭha* or *vīrakāṇḍa* — M.A. Dhaky). Eleventh cent.
yāgaśālā	110/40. A.D. 1544. 188/28. Late.

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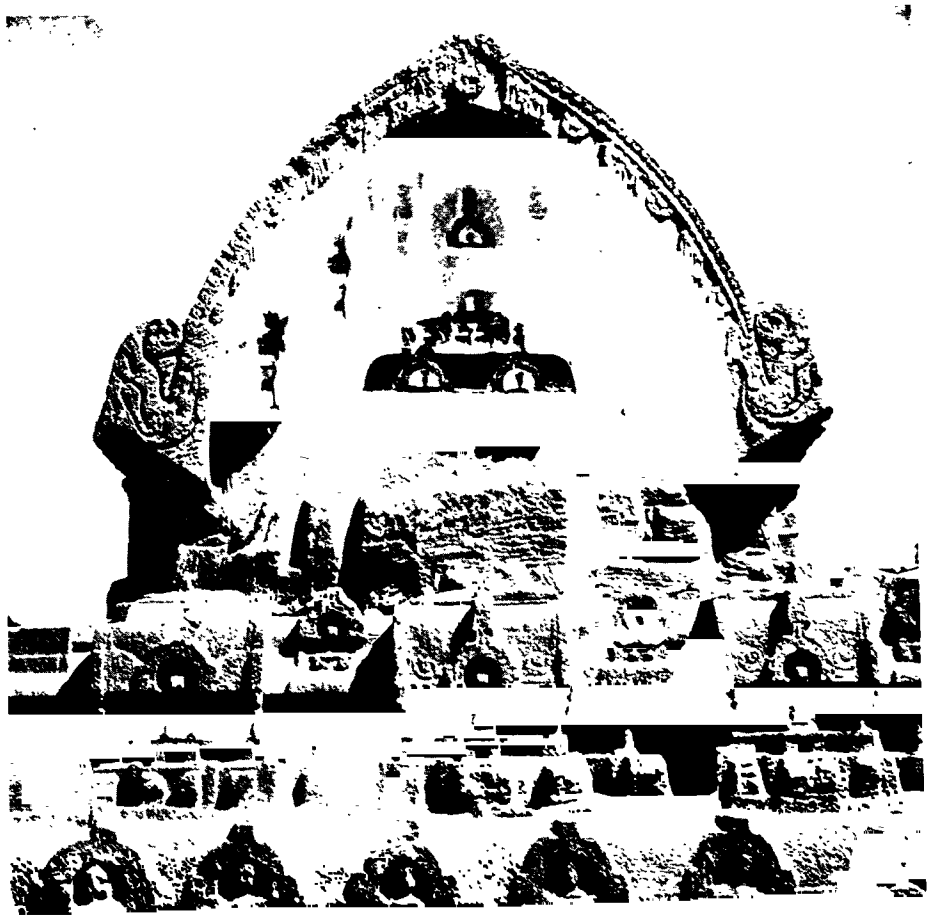
PLATES



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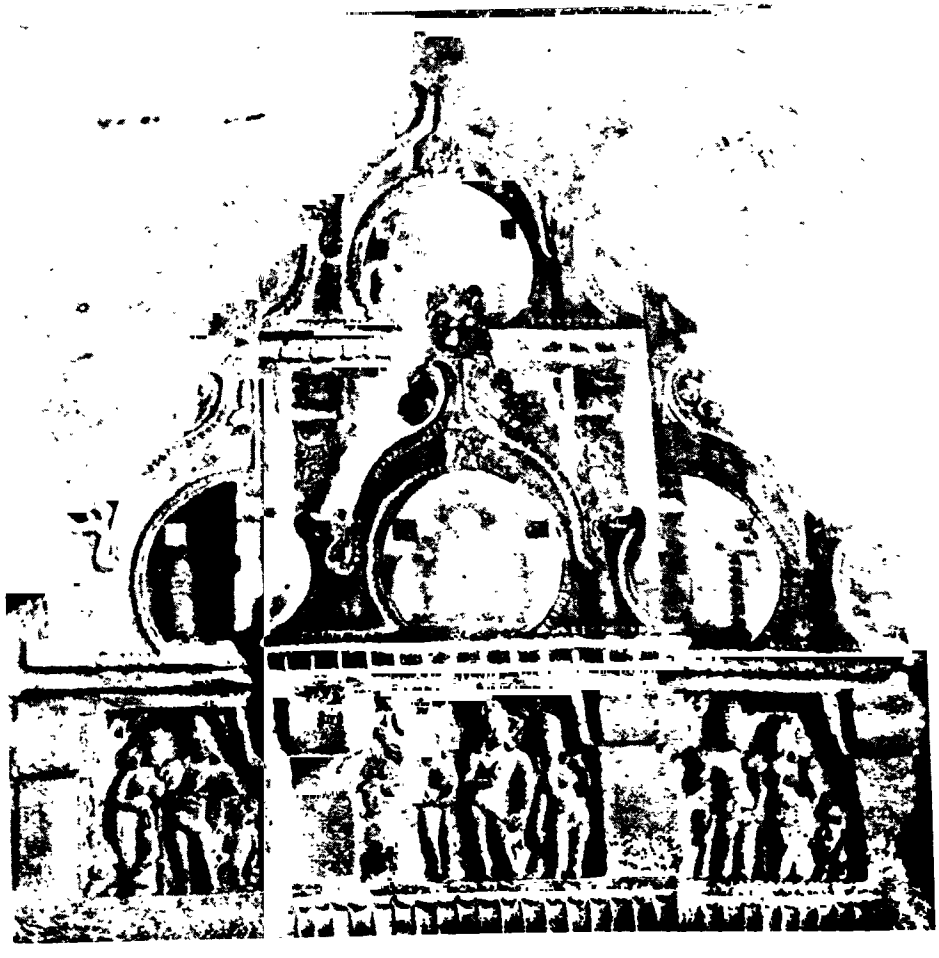
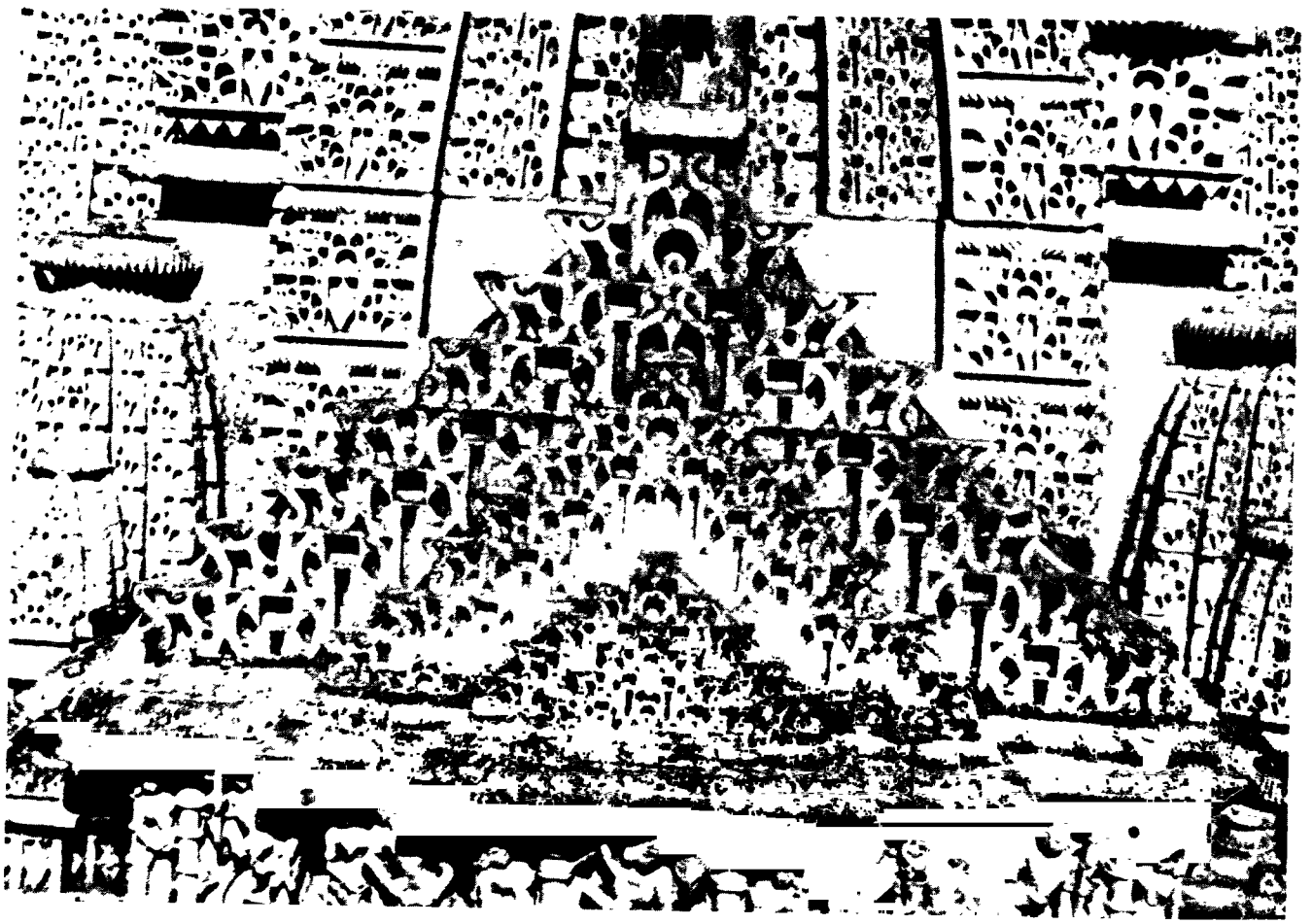


ıpuram. Bhīma Ratha.

ıra. Cave X, *gavākṣa*.



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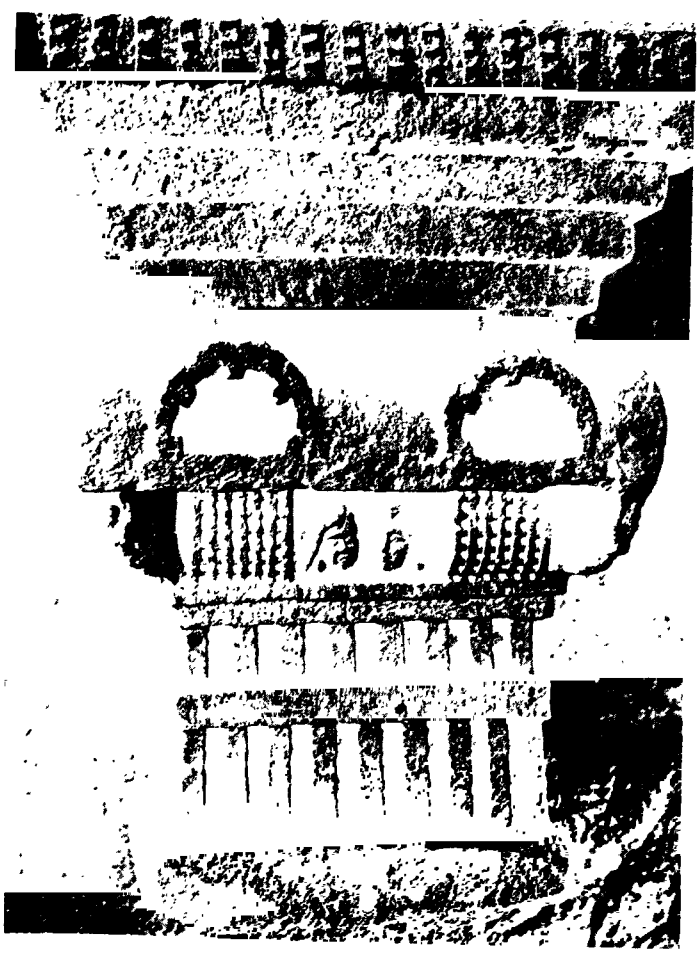
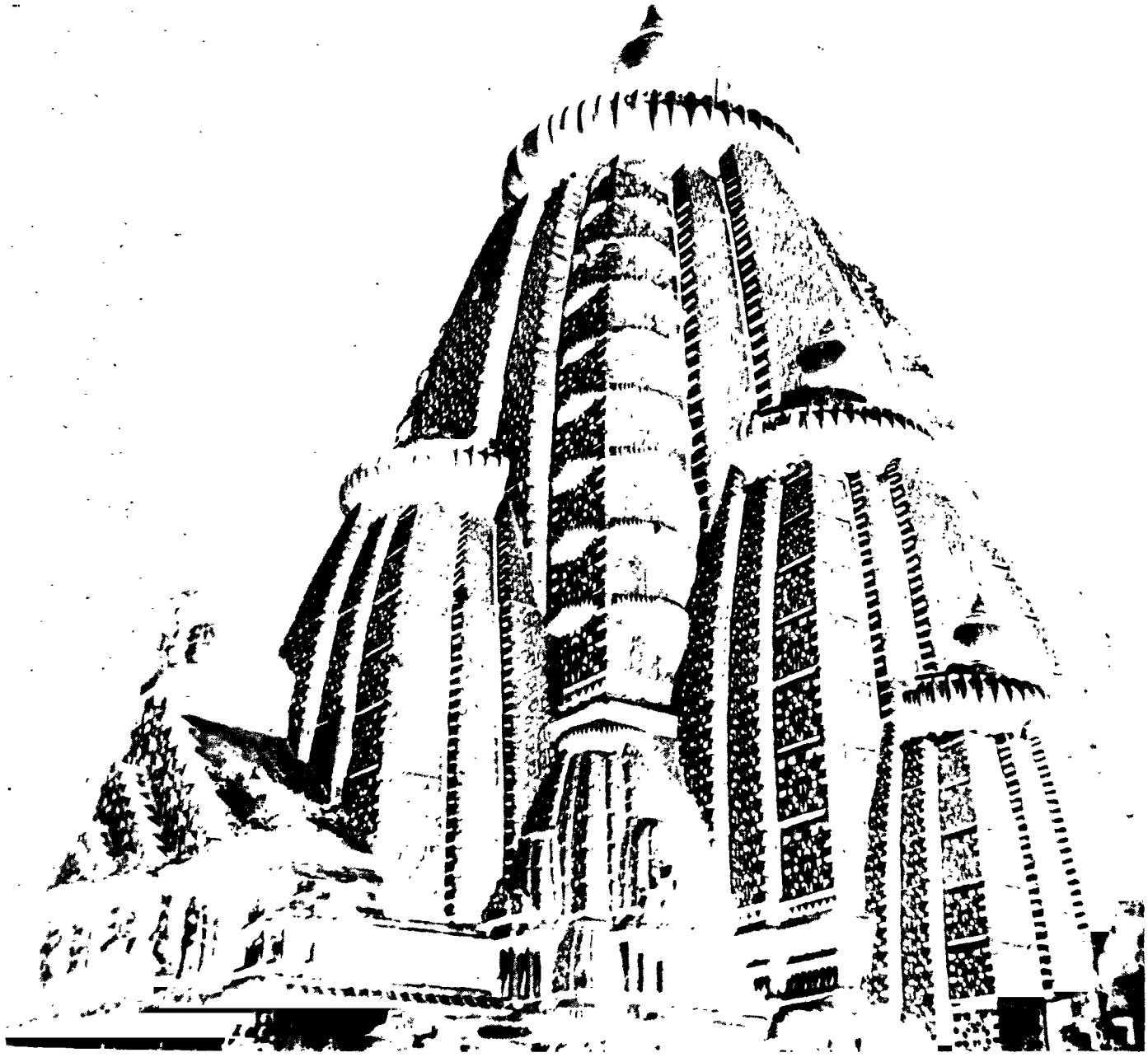


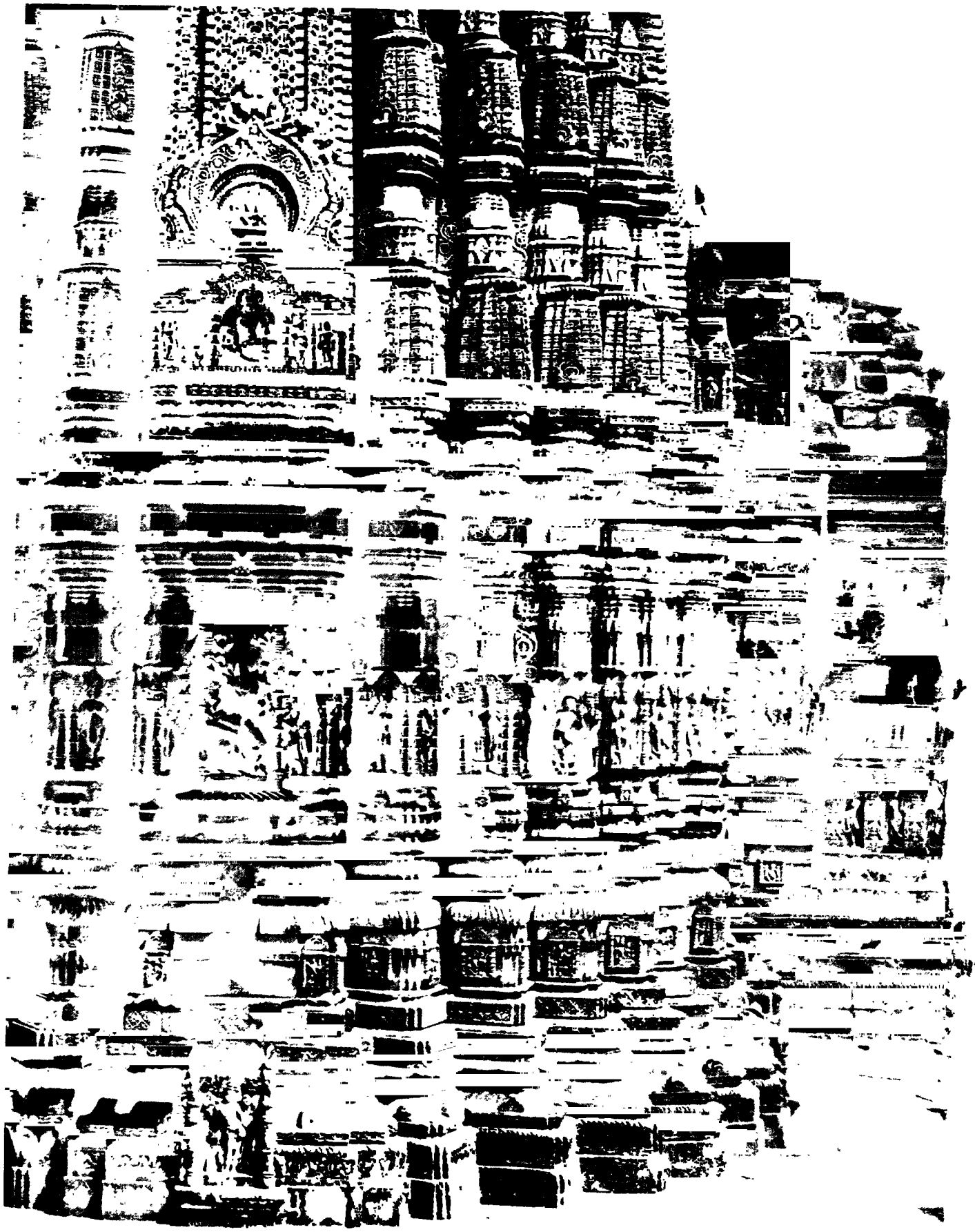
3
Osia. Sacciyāmātā temple, detail of *śikhara*.

4
Pitalkhora. Cave XII, *harmikā*.



5

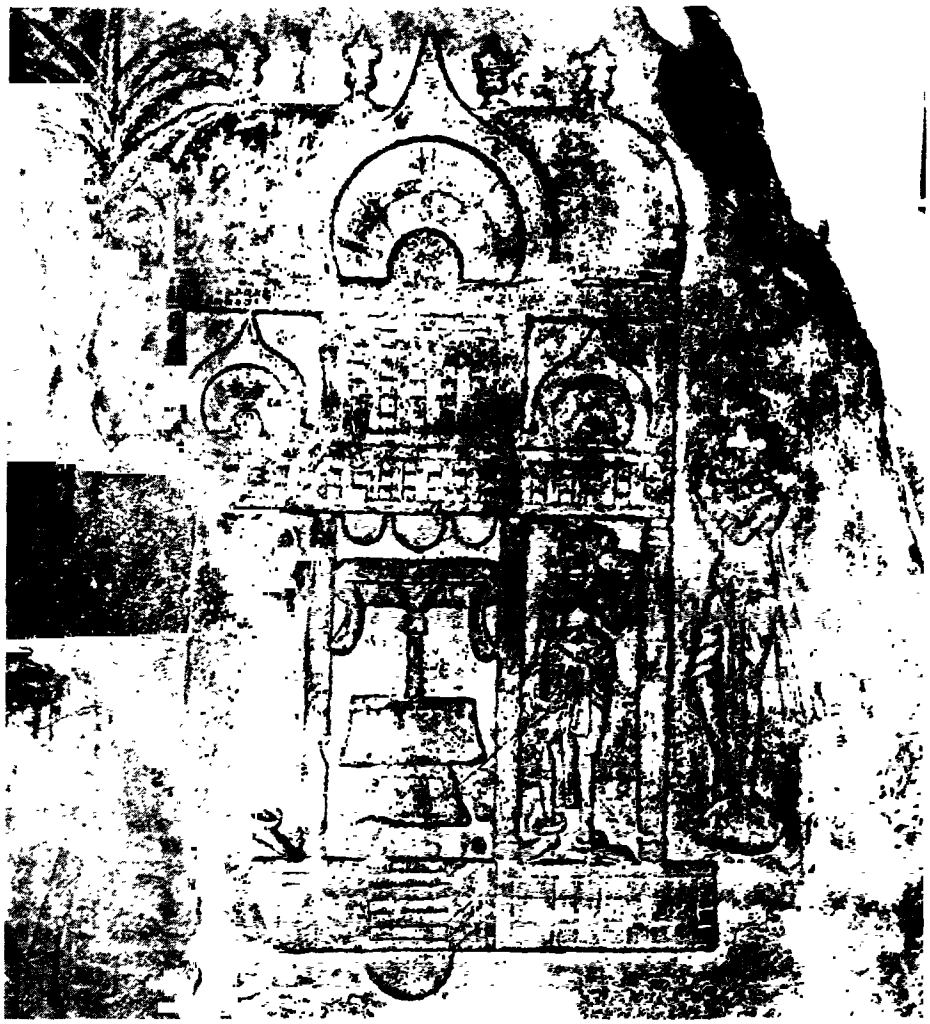
5
Osia. Sacciyāmātā temple, *śikhara* of main shrine.



7
Mathura(?). Medallion showing a *devayaṁ ceiyaṁ*, probably Jaina.

8
Mathura. Lintel of the Kusāna age from a Śaiva shrine, showing a Linga below a tree.

6
Udaypur, Madhya Pradesh. Udayeśvara temple.



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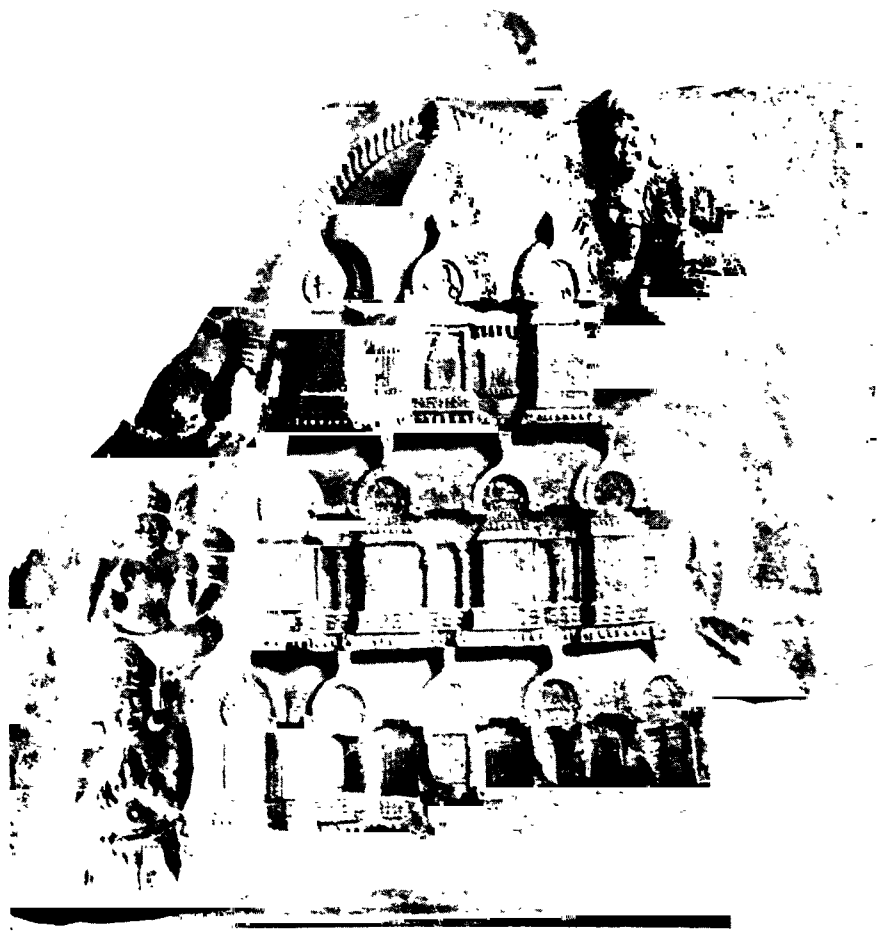
10

9
Jaggayyapeta. Stone slab, showing a two-storeyed shrine in relief.

10
Gop. Main shrine, sculptures on the socle.

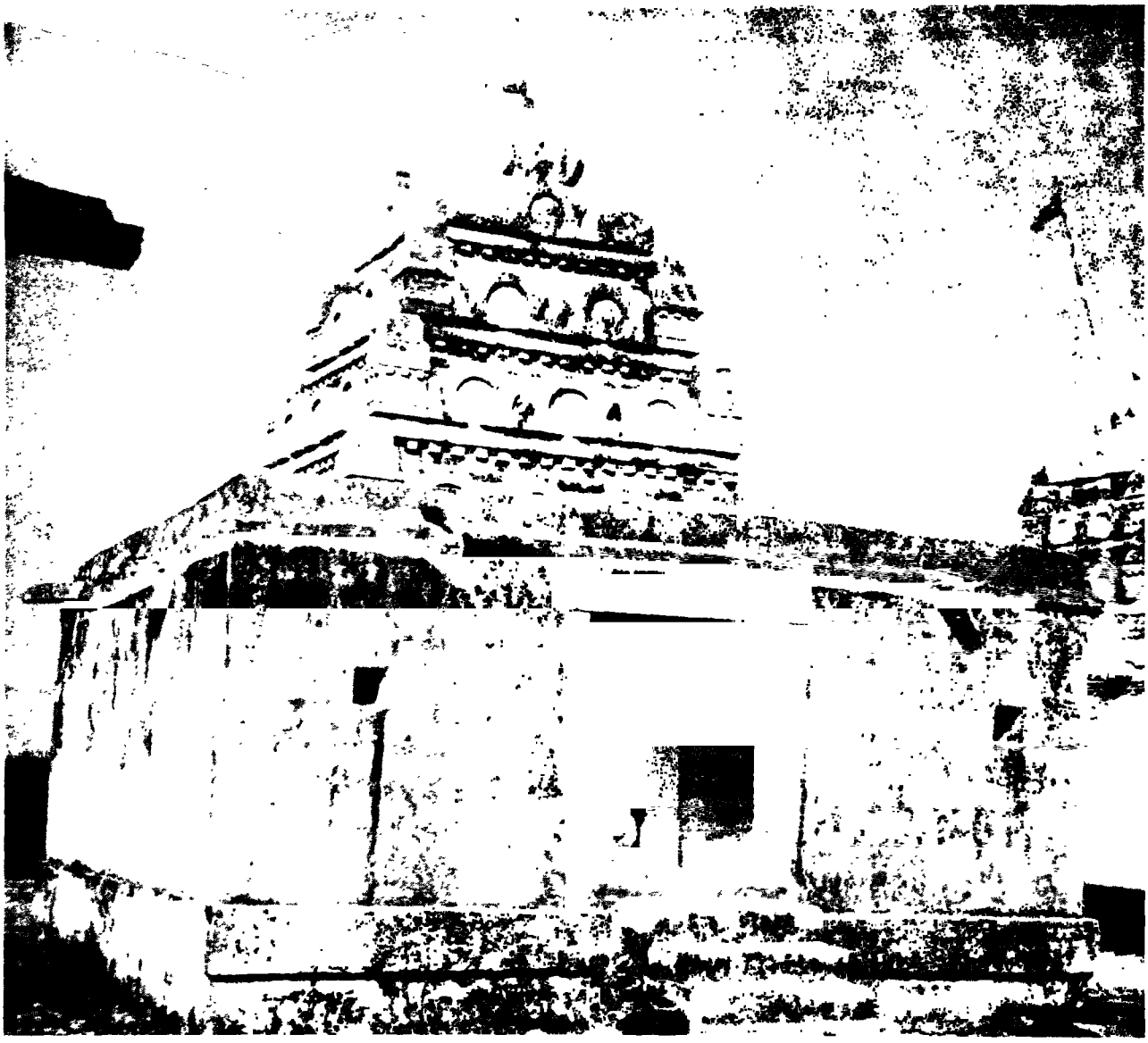
11

12



11
Kausambi. Terracotta plaque showing a three-storeyed shrine.

12
Ghantasala. Marble relief showing a shrine with diminishing storeys.



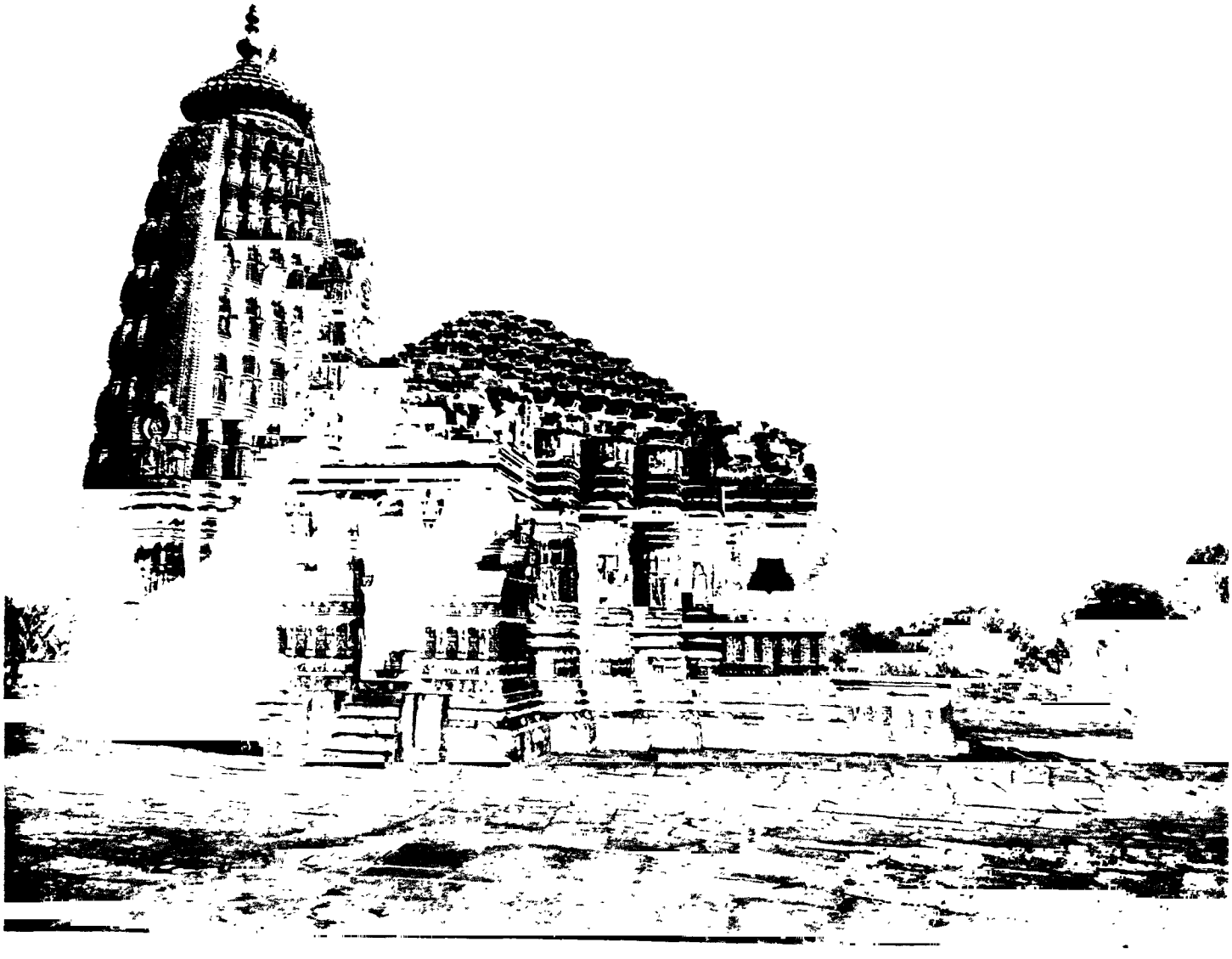
13

13
Khimesvara. Śiva temple.

14
Mathura. Representation of an early shrine on the pedestal of a Kuṣāṇa Buddha image.

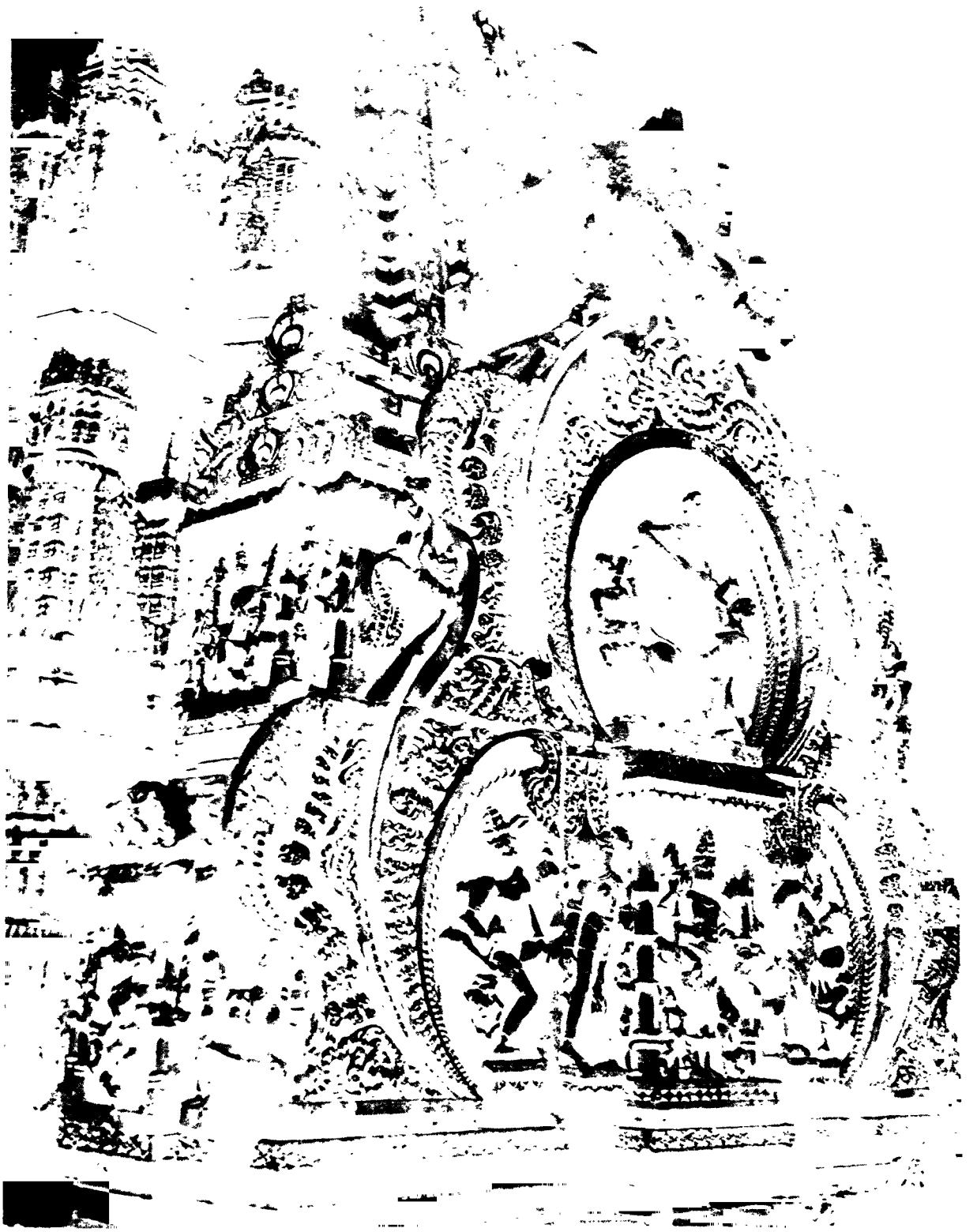
15

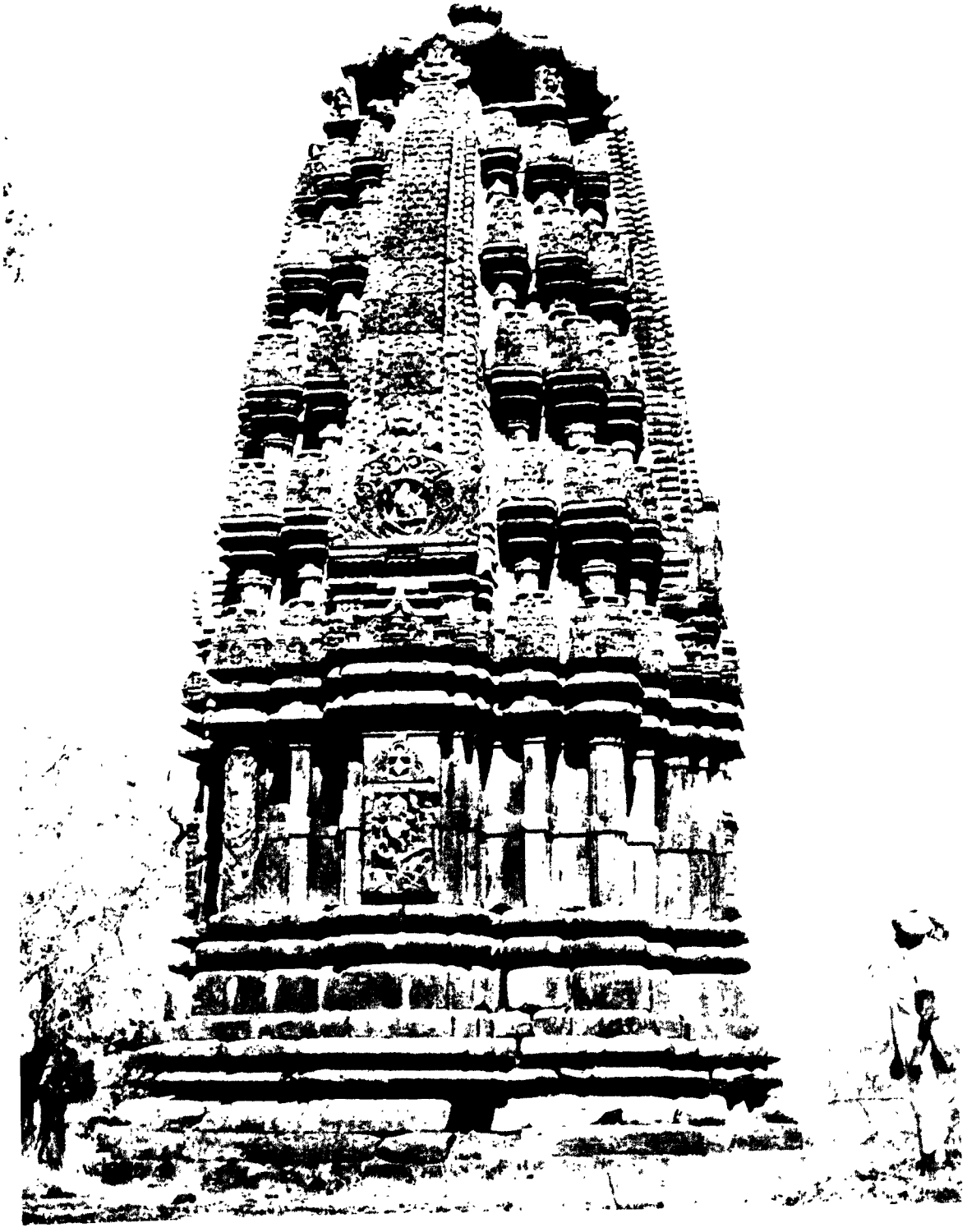
15
Udaypur, Madhya Pradesh.
Udayeśvara temple, general view.



16
Udaypur, Madhya Pradesh.
Udayeśvara temple, detail of eastern
śukanāsa.

16





17
Udaypur, Madhya Pradesh.
Udayeśvara temple, *śākhās* of doorway.

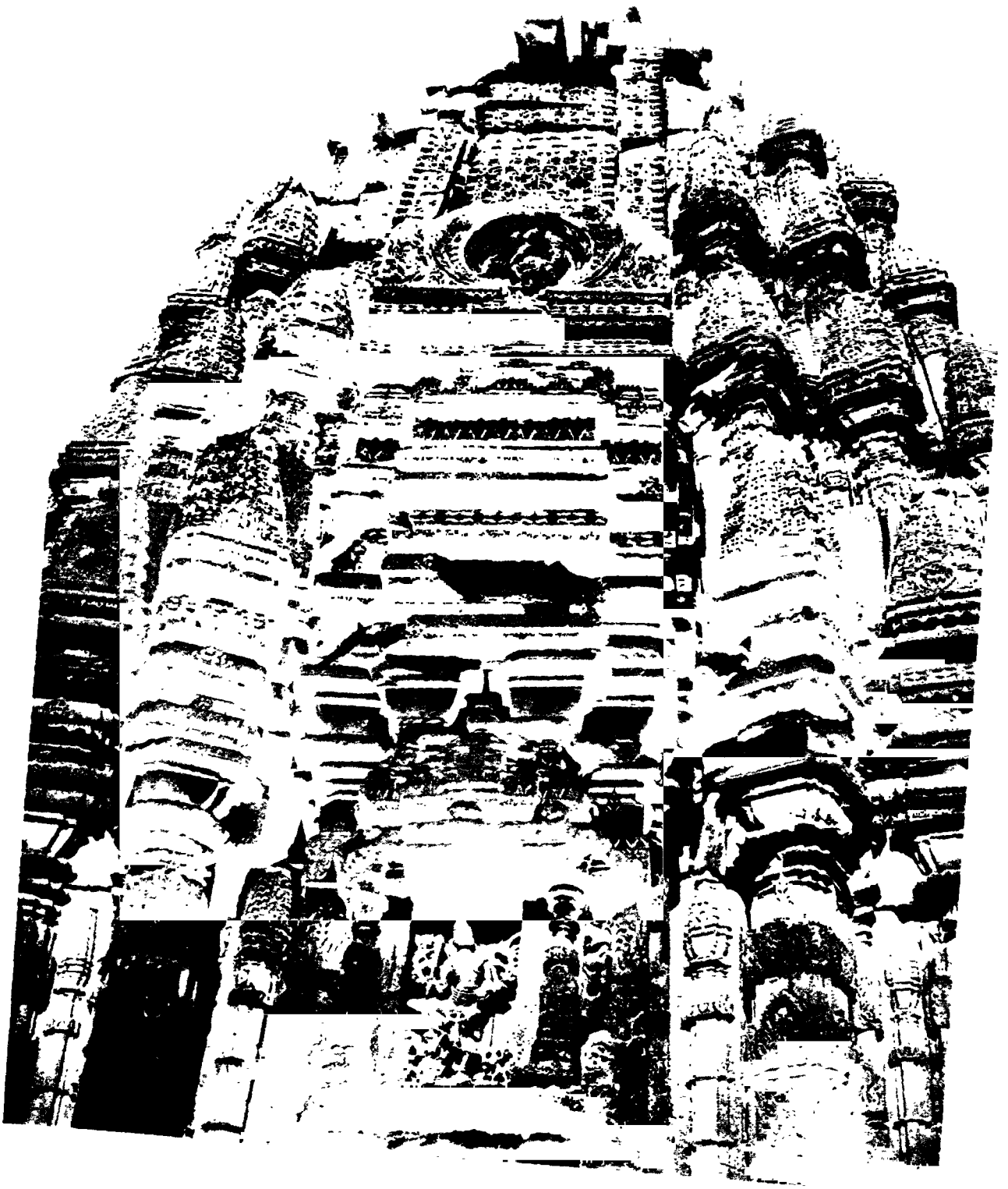
18
Udaypur, Madhya Pradesh.
Udayeśvara temple, capitals of pillars
in the *mahāmaṇḍapa*.

19
Jamli, Jāmaleśvara temple, from west

20

Un. Oṁkāreśvara temple. *Śikhara*, from west.

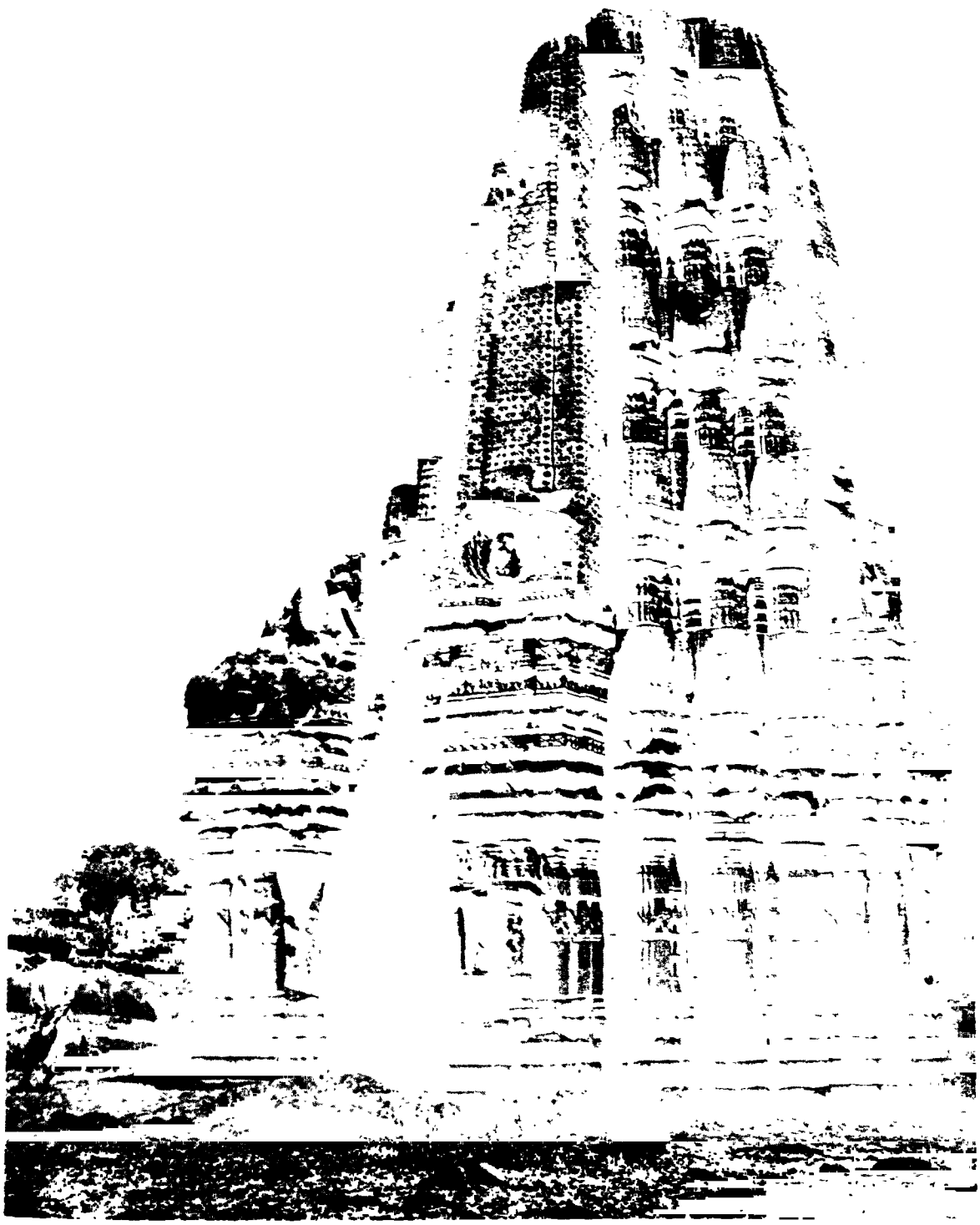
20



21

Un. Mahākāleśvara temple No. 2, from southwest.

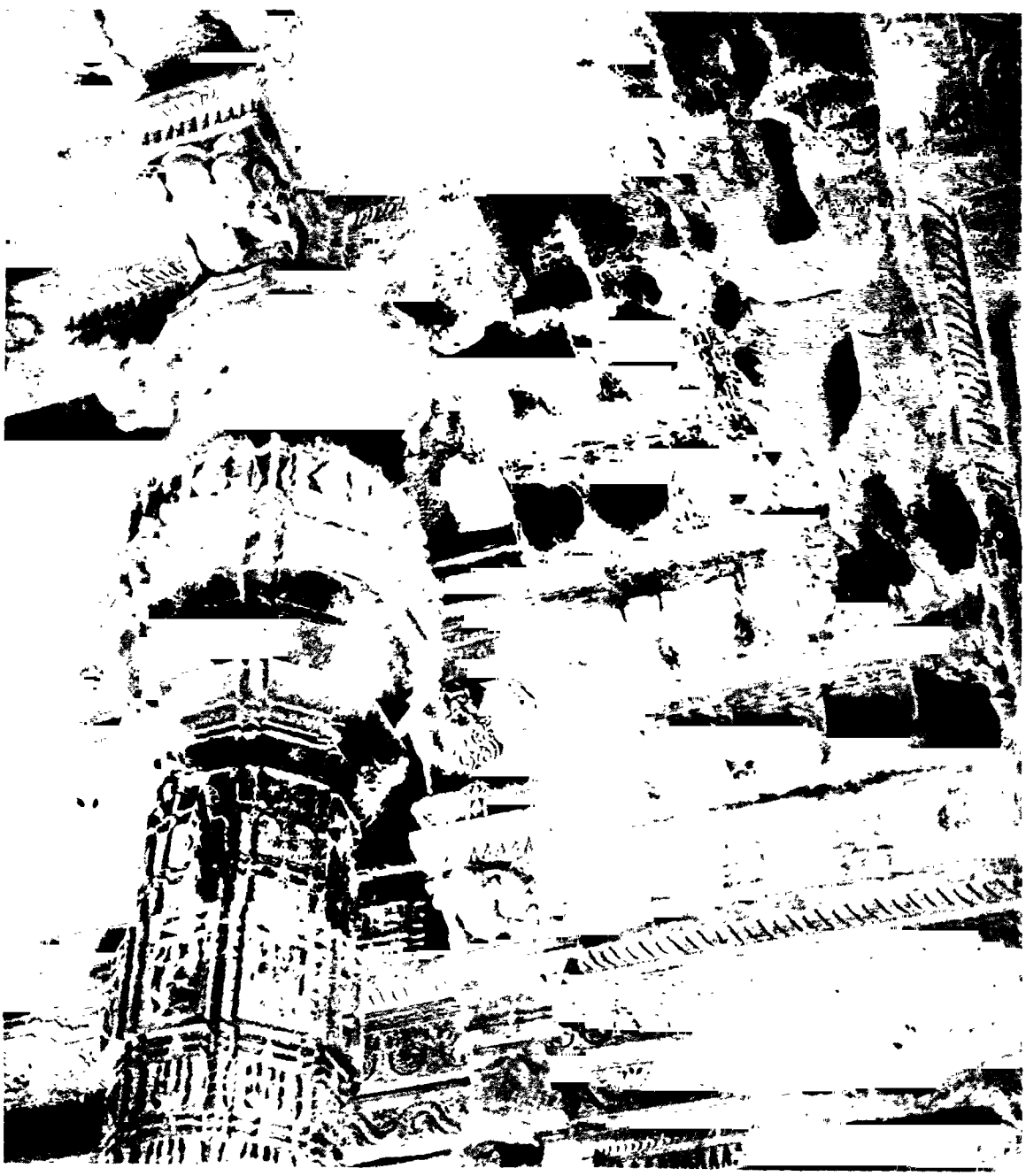
21

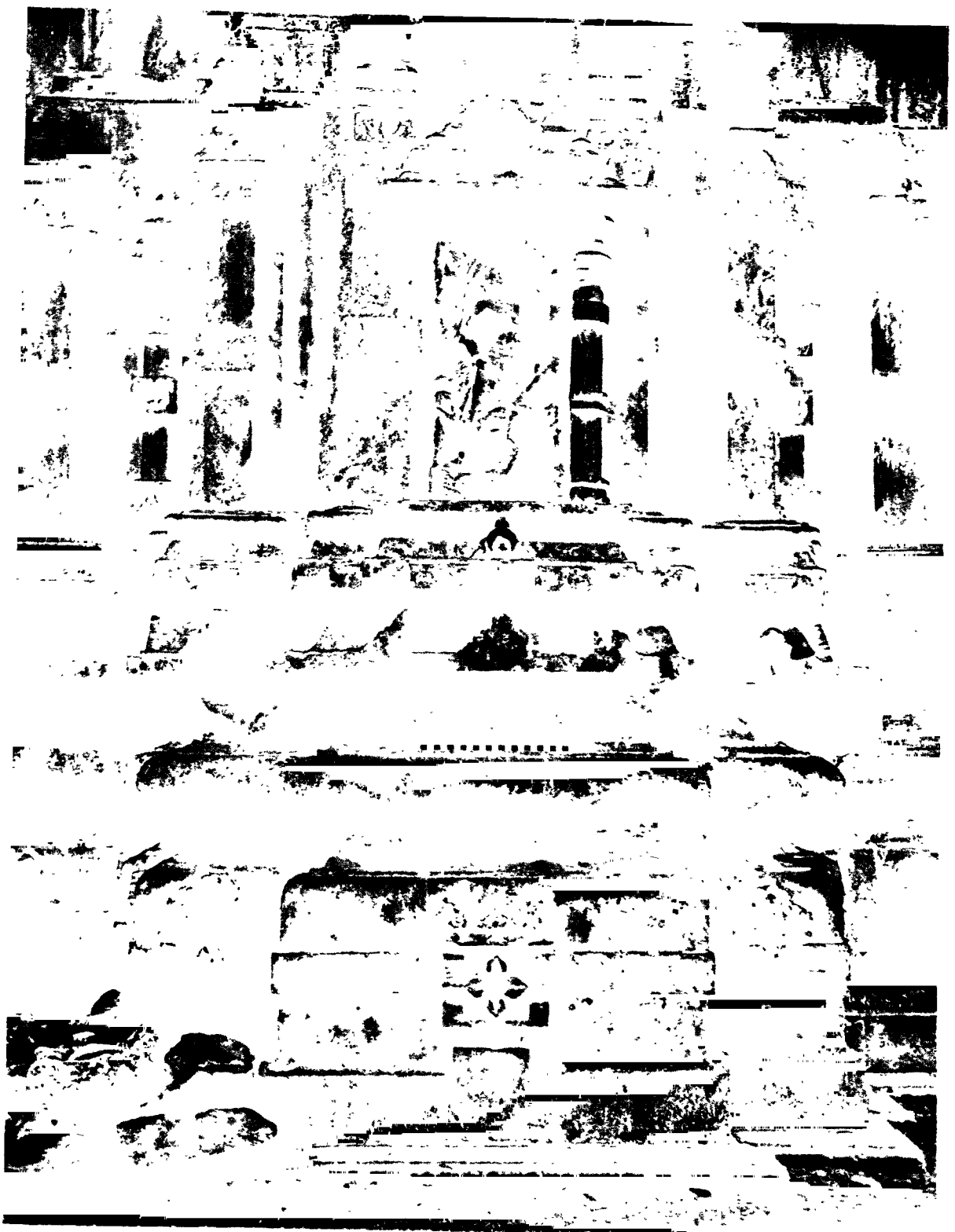


22
Un. Chaubārā Ḍerā No. 1, ceiling of north side of the *mahāmāṇḍapa*.

23
Omkar Mandhata, Amareśvara temple.

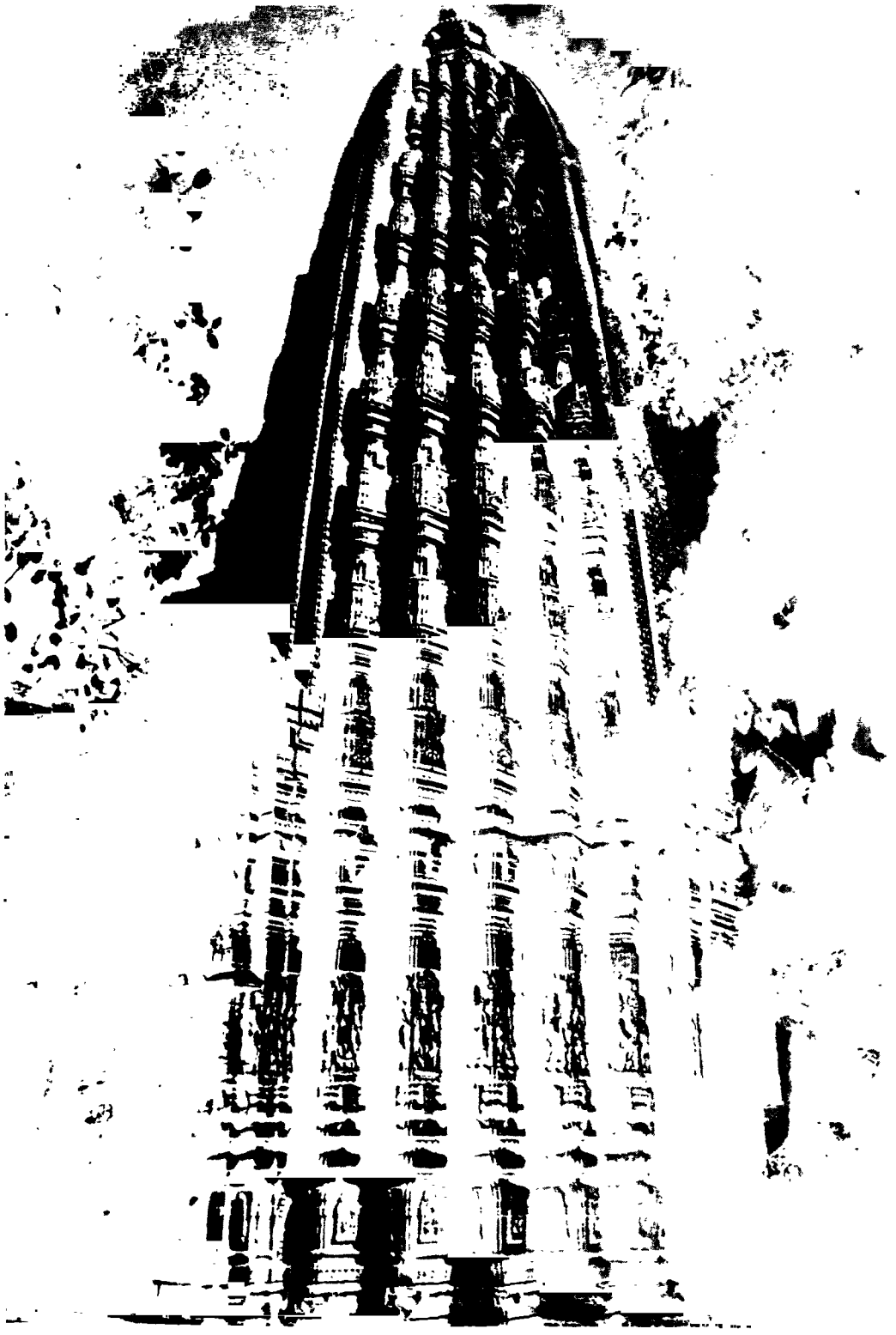
22



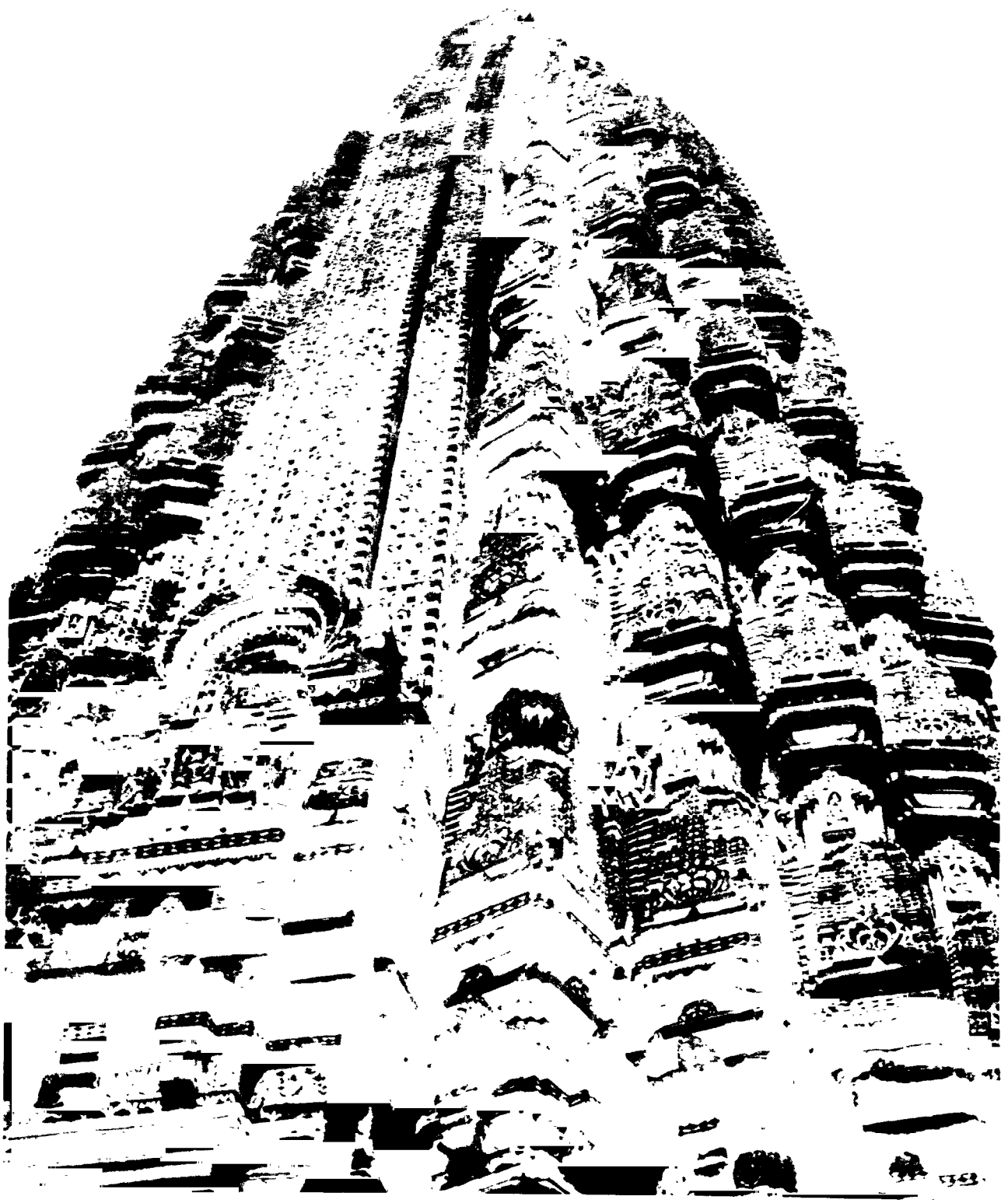


24

24
Nemawar. Siddheśvara temple, *śikhara*, from southeast.



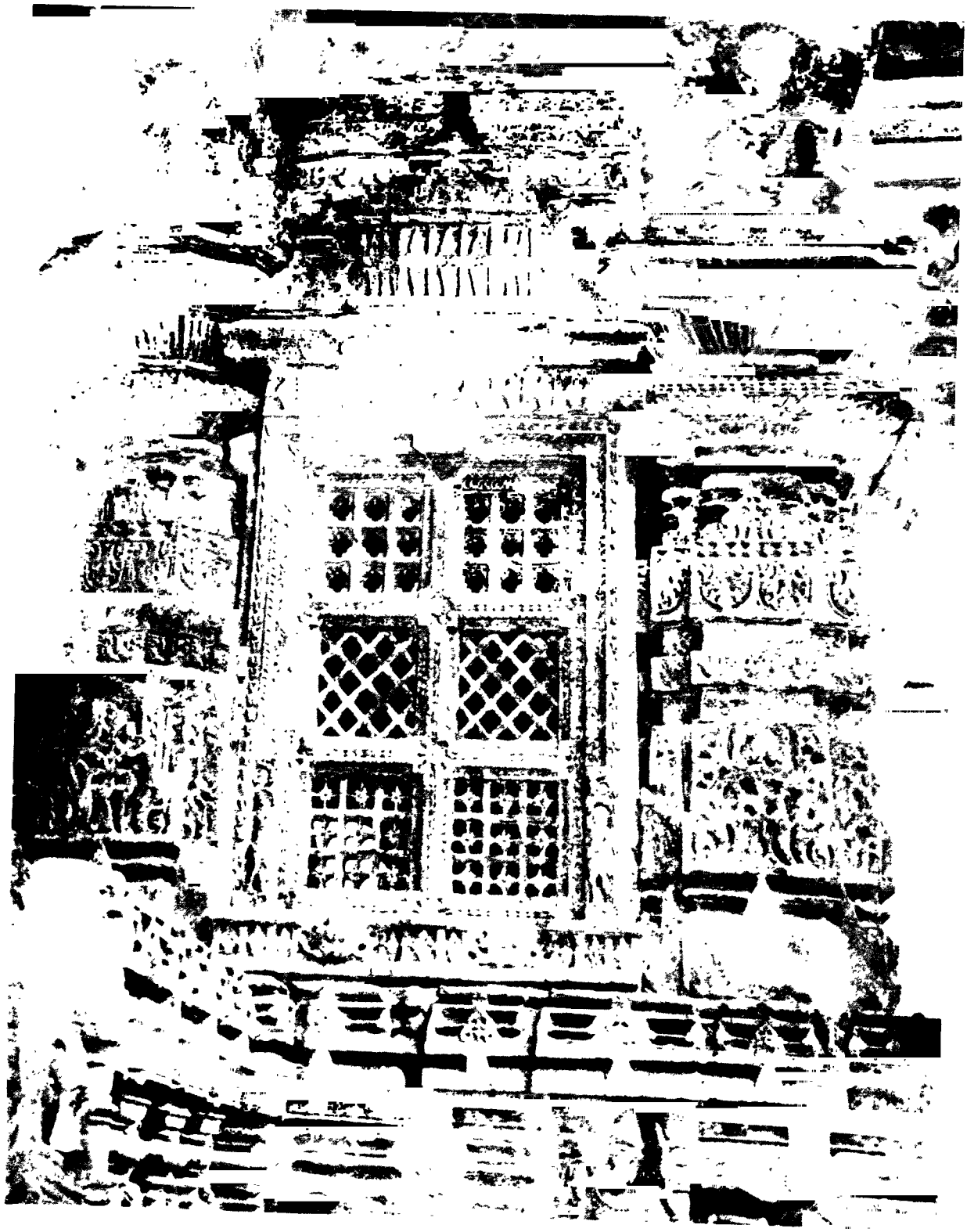
25
Nemawar. Siddheśvara temple, from northeast.

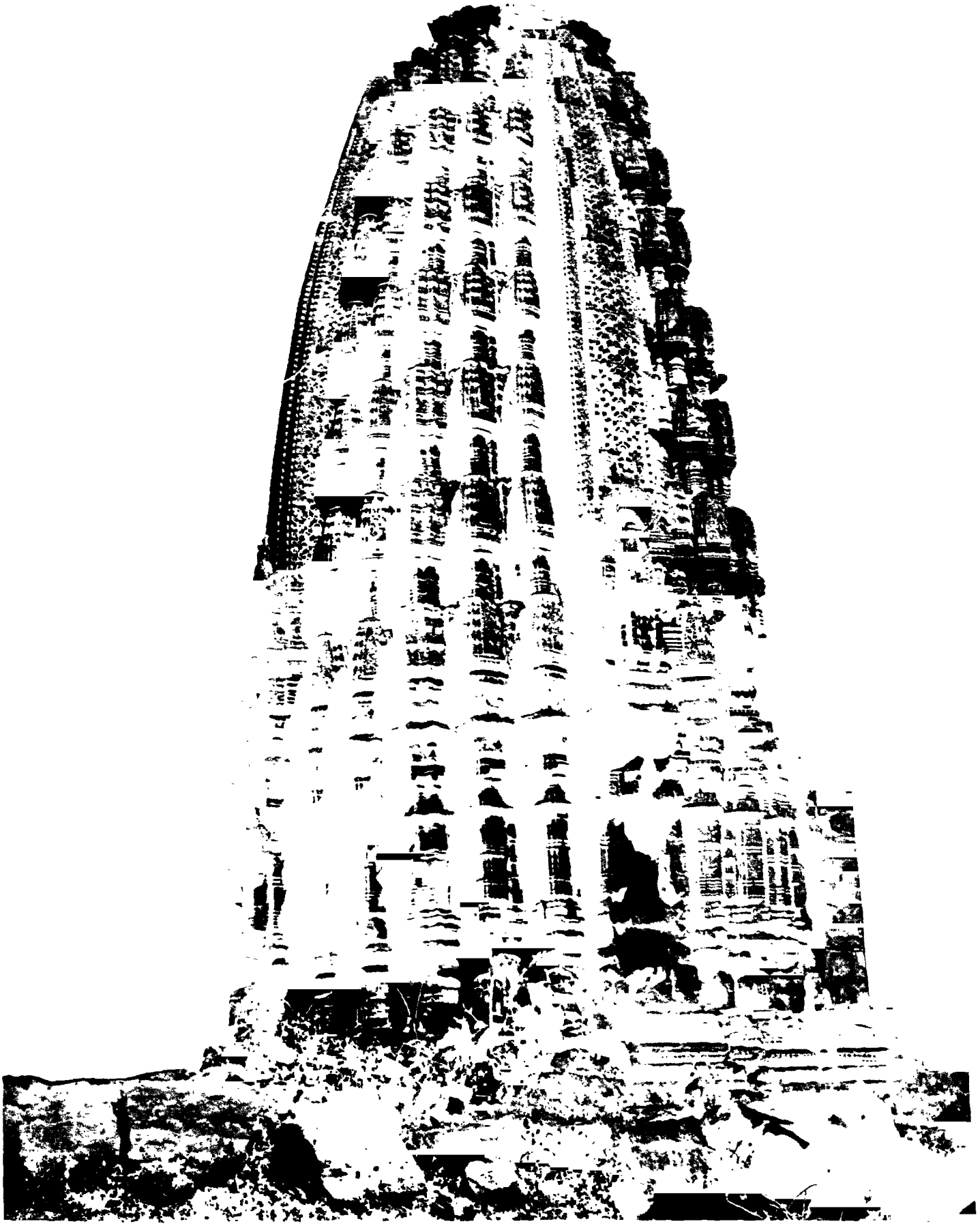


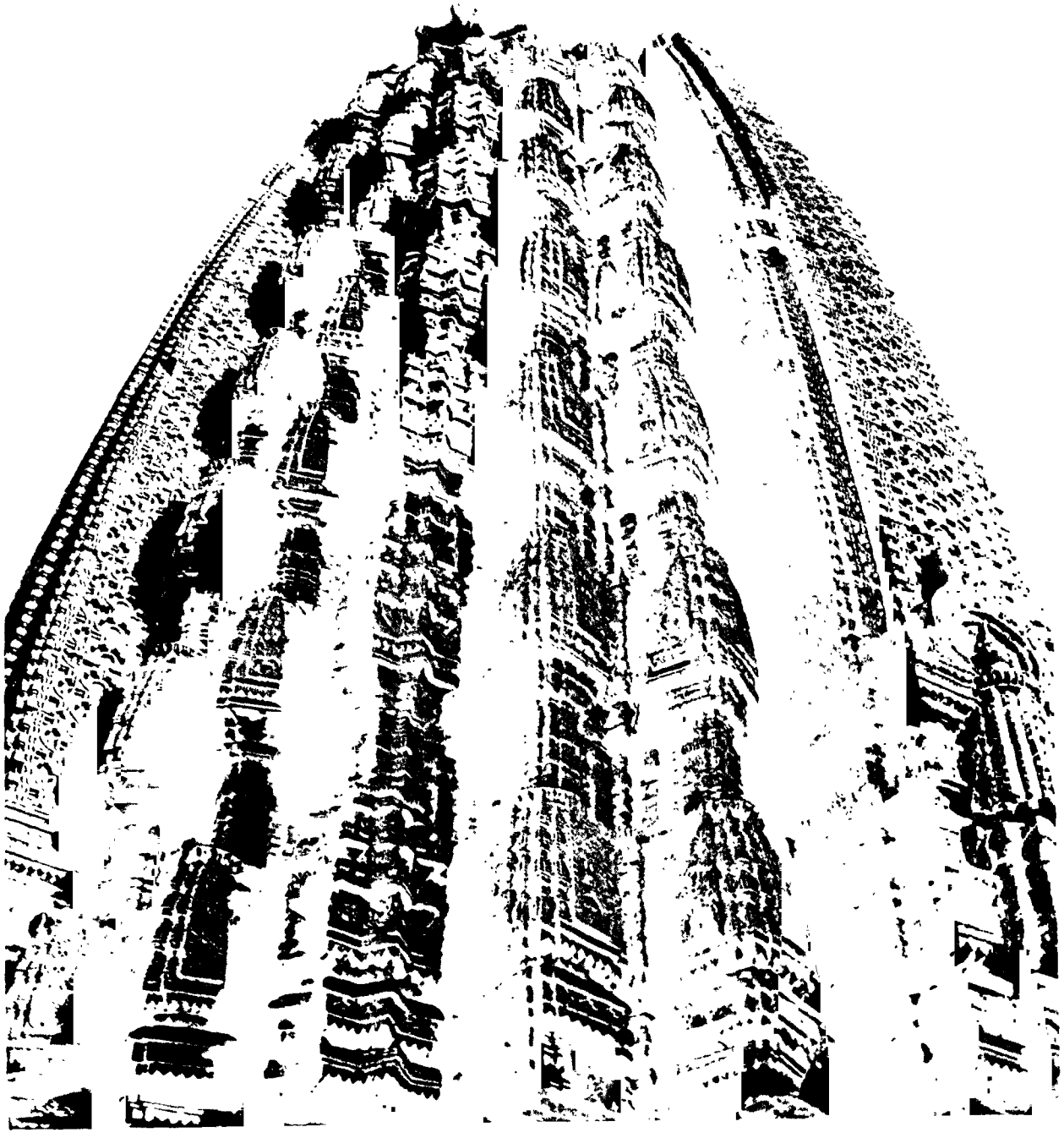
26

26
Nemawar, Siddhesvara temple, window of north façade.

27
Mirajpur, Mālavai temple, from south.

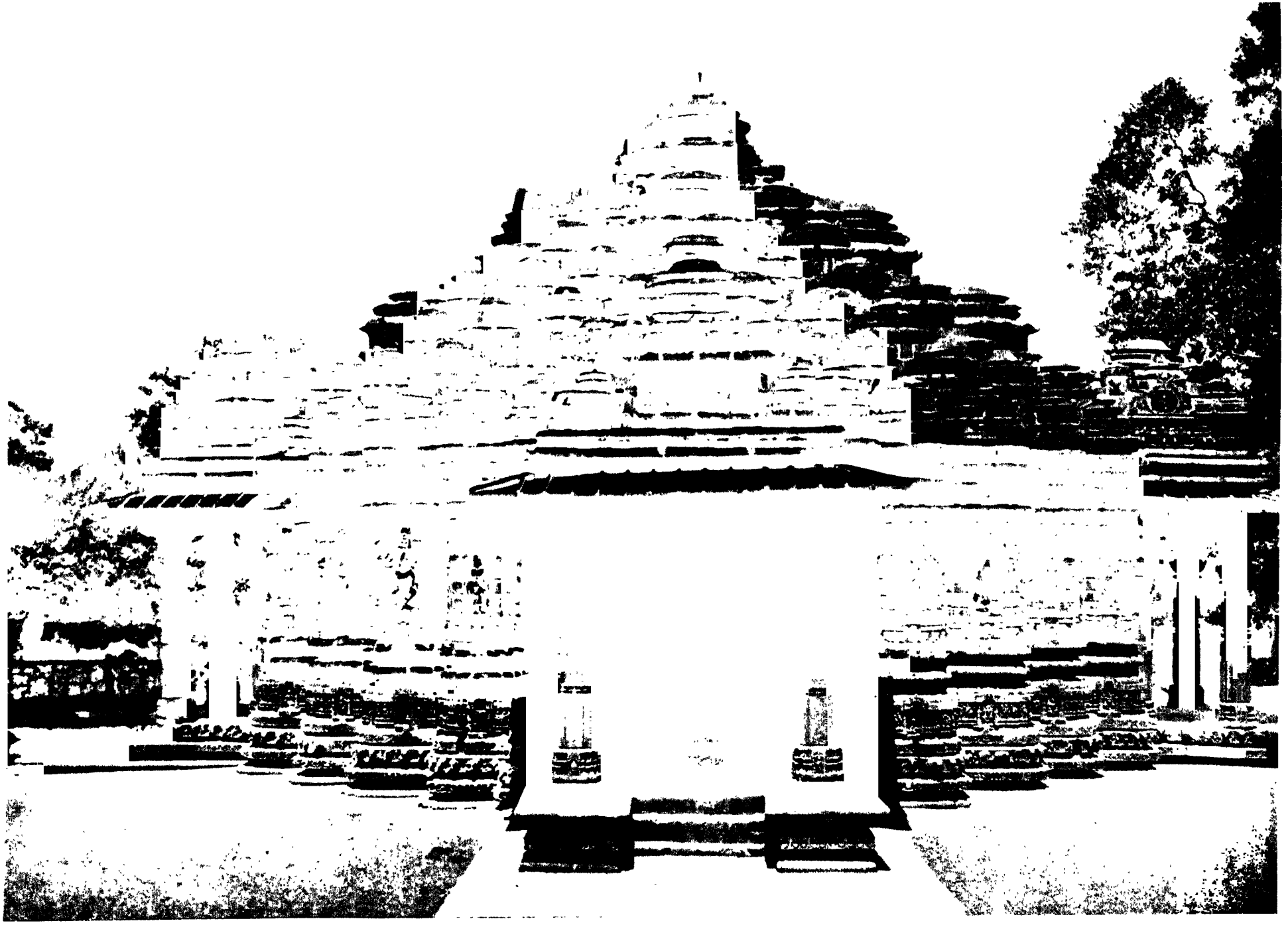


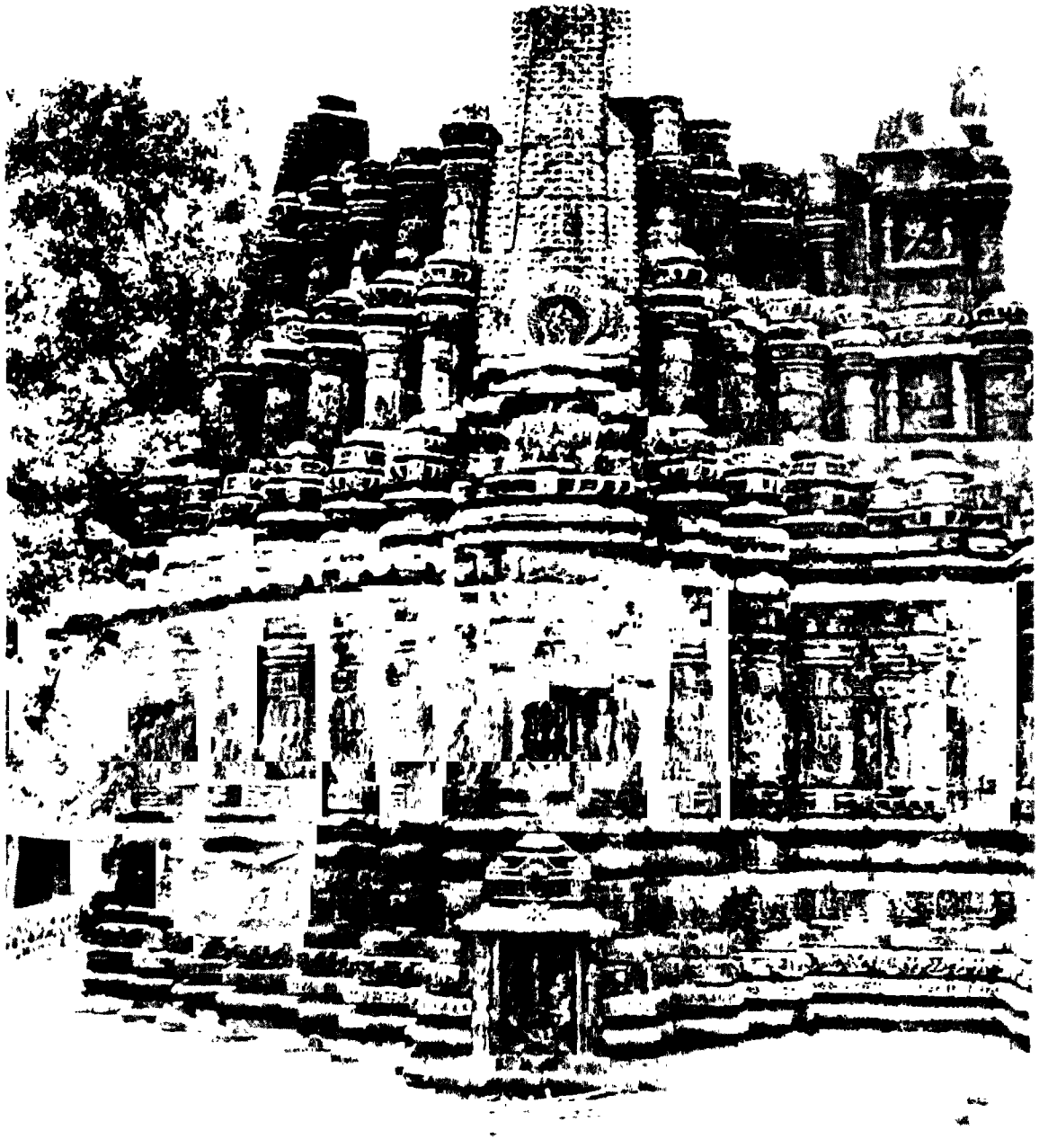




28
Alirajpur. Mālavai temple, *śikhara*, from west.

29
Ambarnath. Ambaranātha temple, from west.

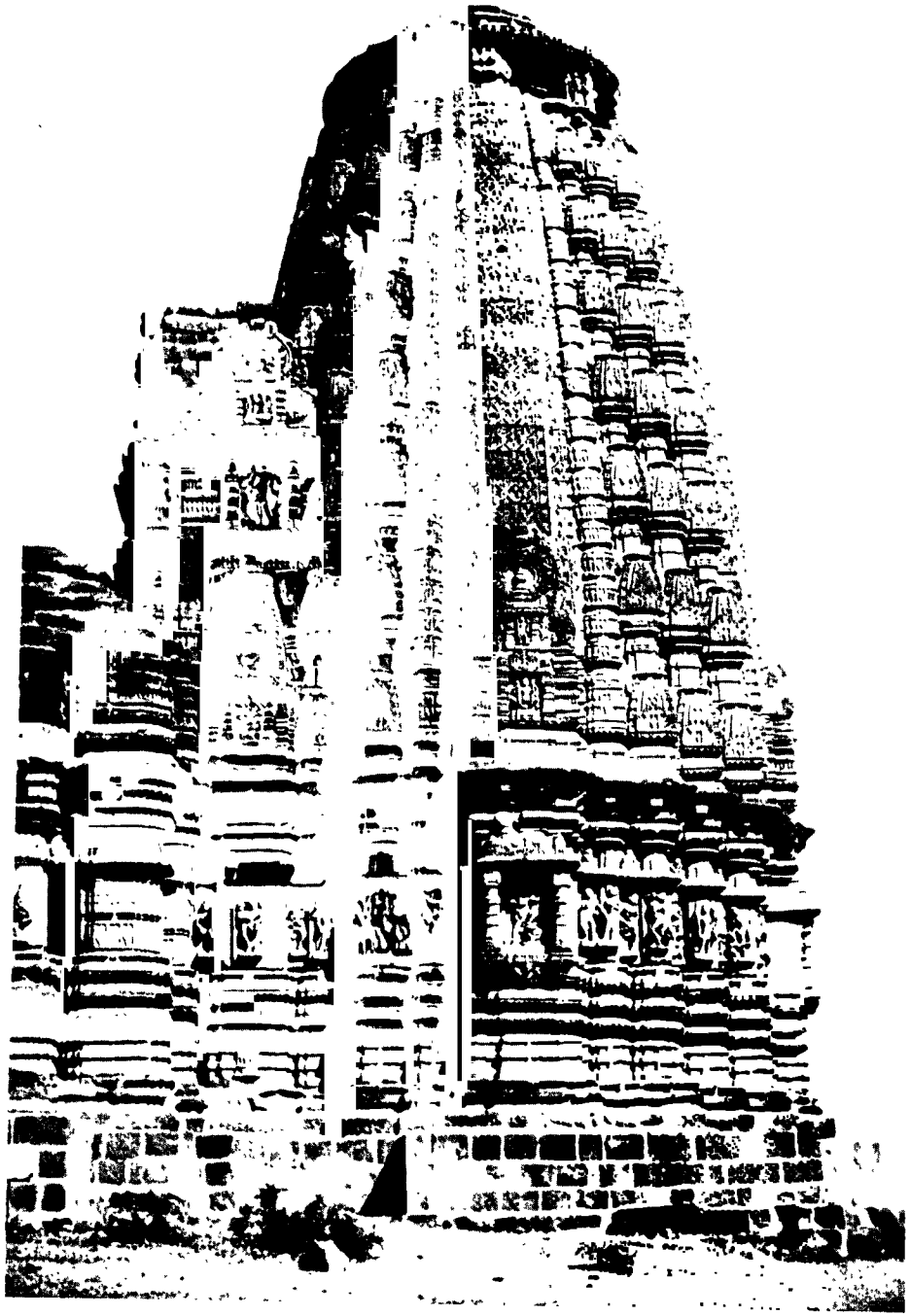




30
Ambarnath. Ambaranātha temple.

31
Balsane. Temple No. 1, from southeast.

32



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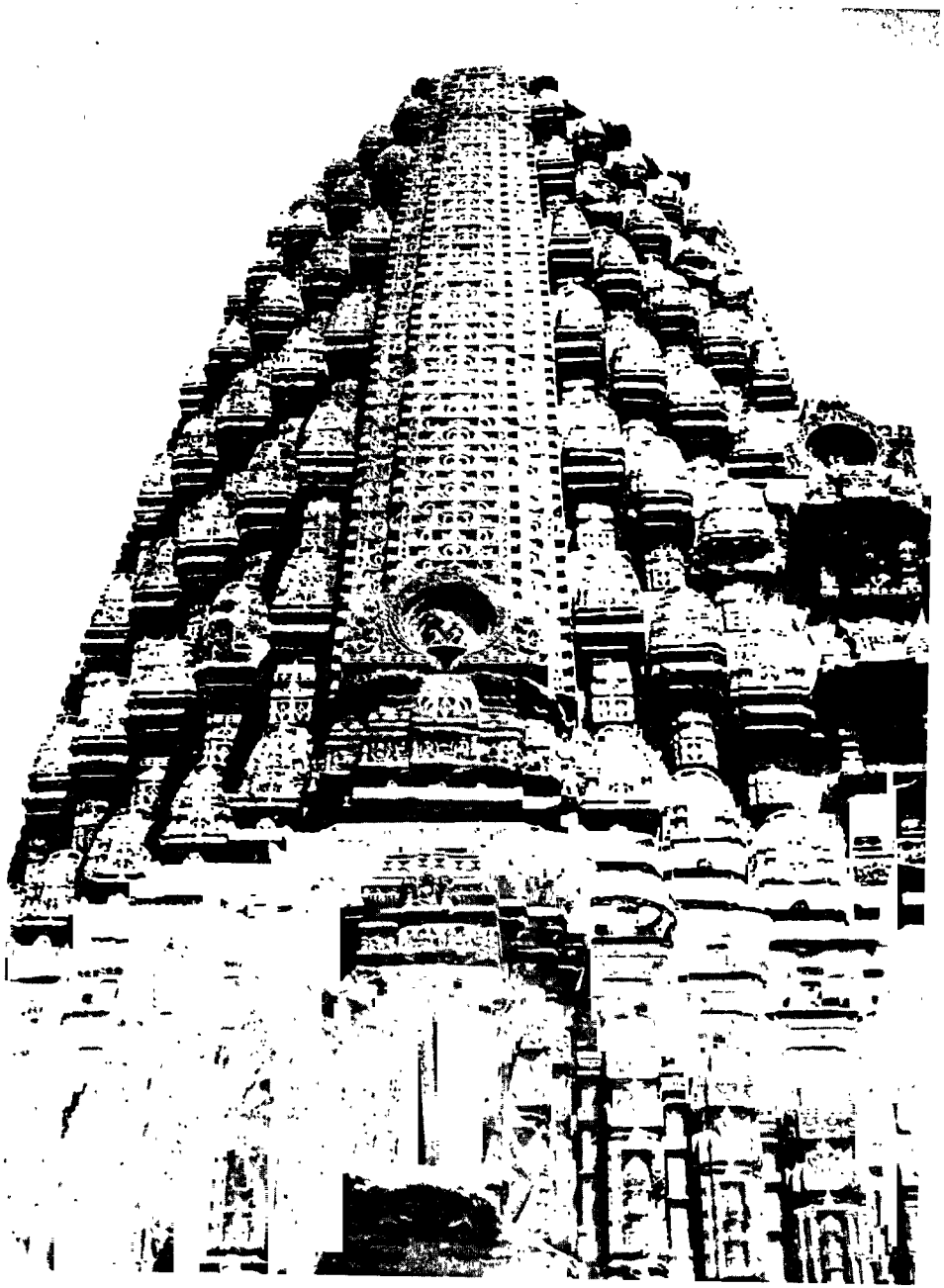
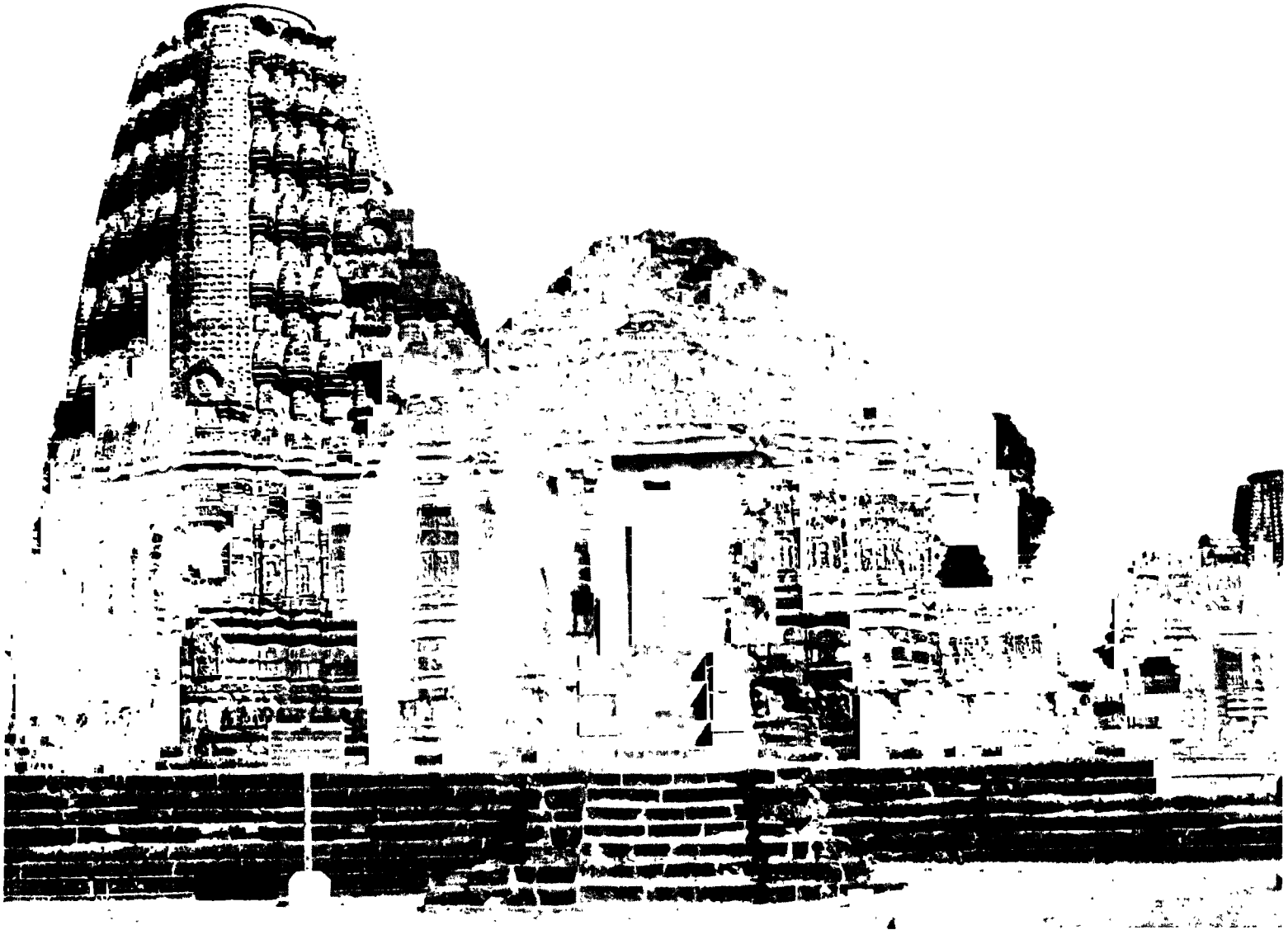




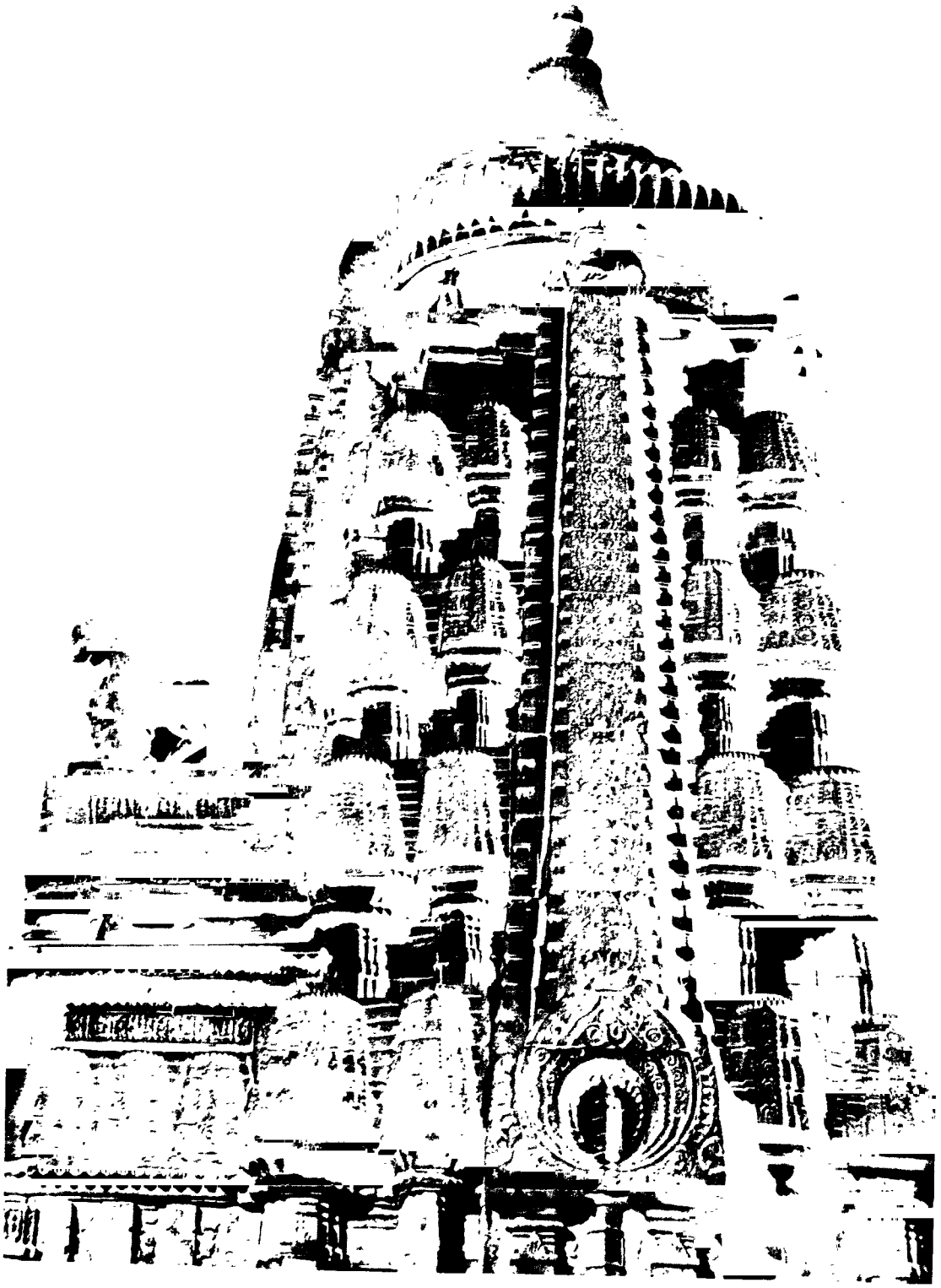
33

32
Jhodga. Maṅkeśvara temple.

33
Sinnar. Goṇḍeśvara temple.

34
Sinnar. Goṇḍeśvara temple, *śikhara*, from south.

35
Menal. Mahānāleśvara temple,
śikhara.



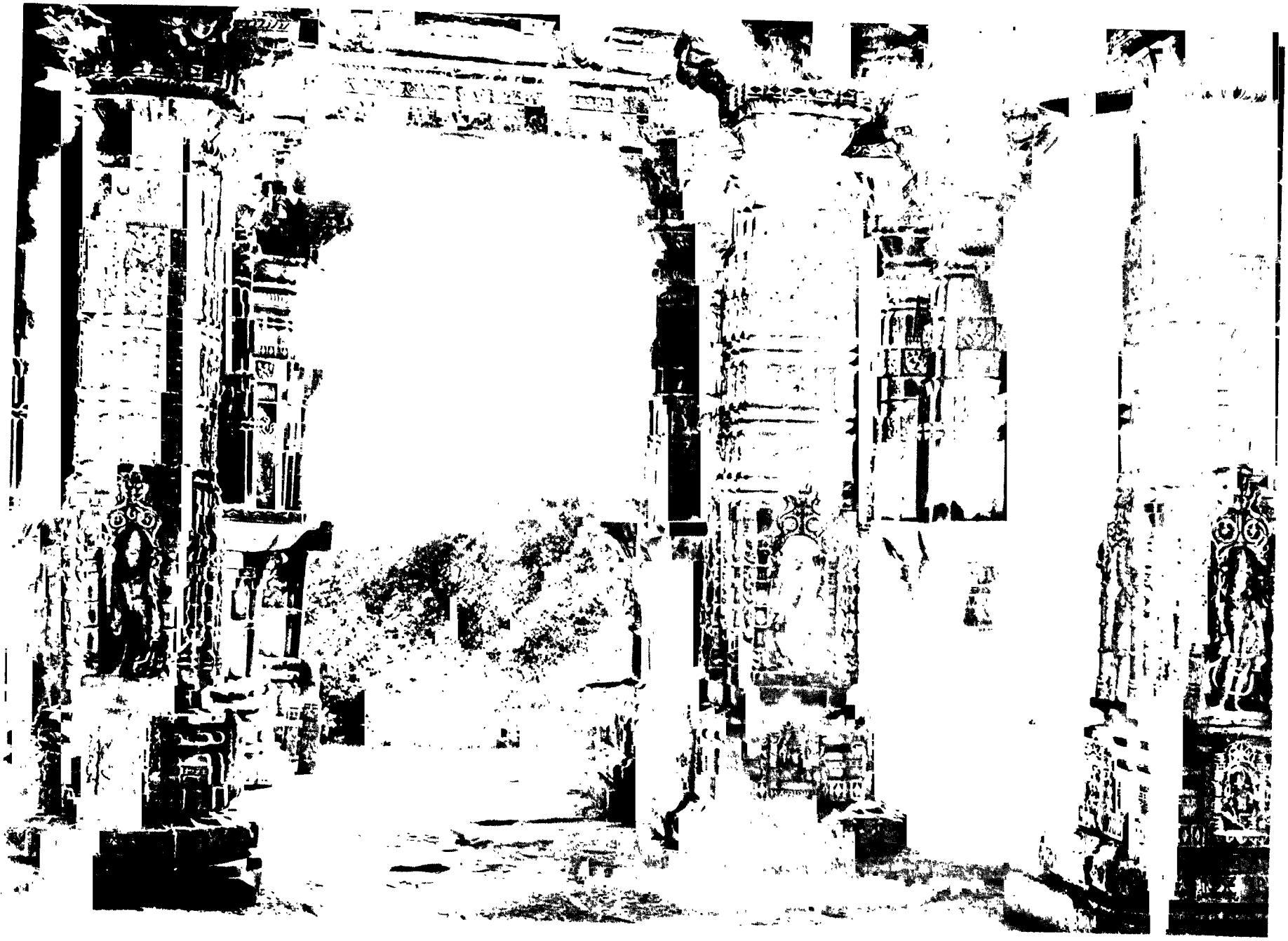
35

36
Menal. Mahānāleśvara temple, roof of *maṇḍapa*.

37
Ramgarh. Bhand Deorā temple,
back view.

38
Ramgarh. Bhand Deorā temple,
detail of *maṇḍovara*.

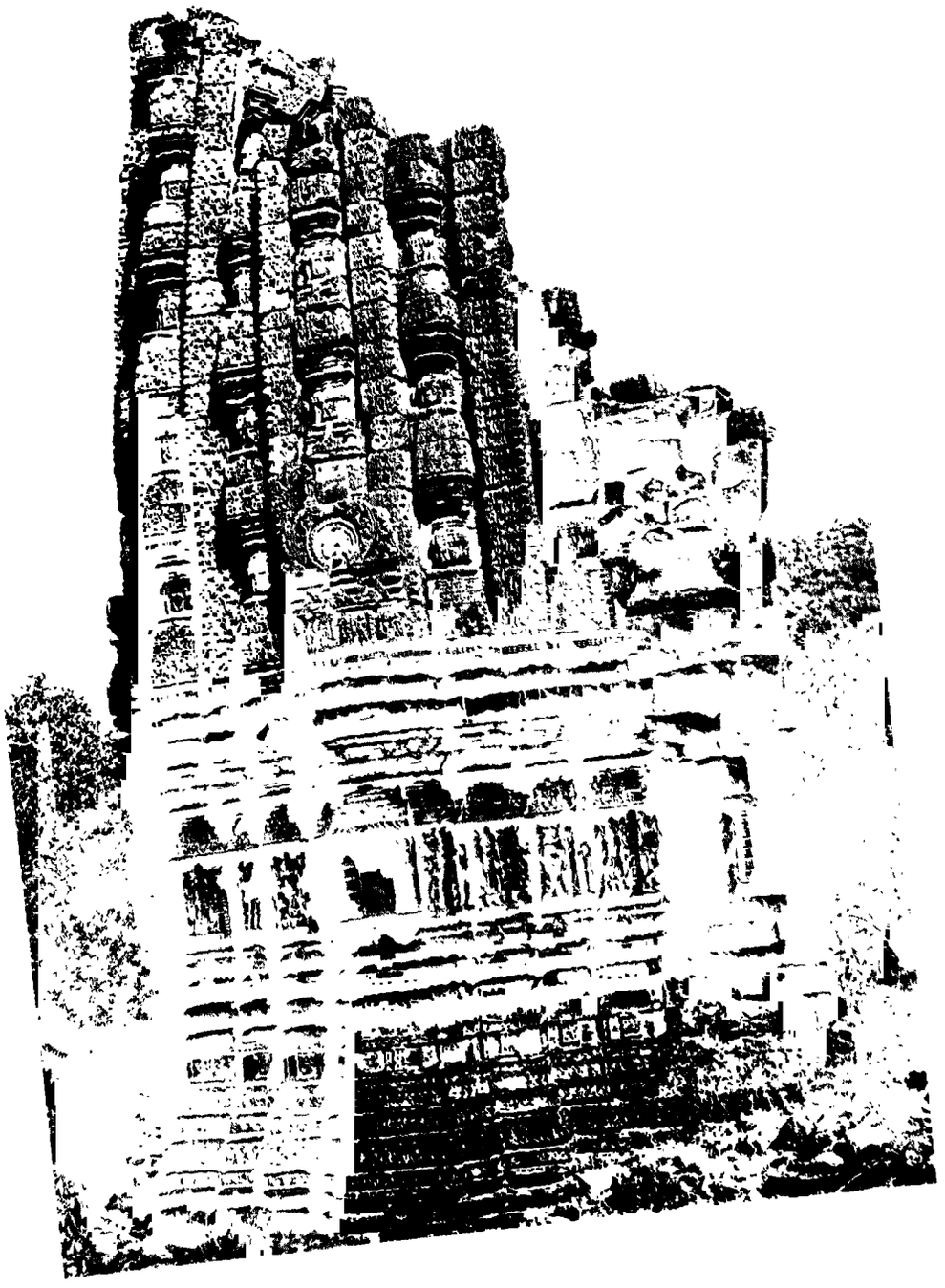
38

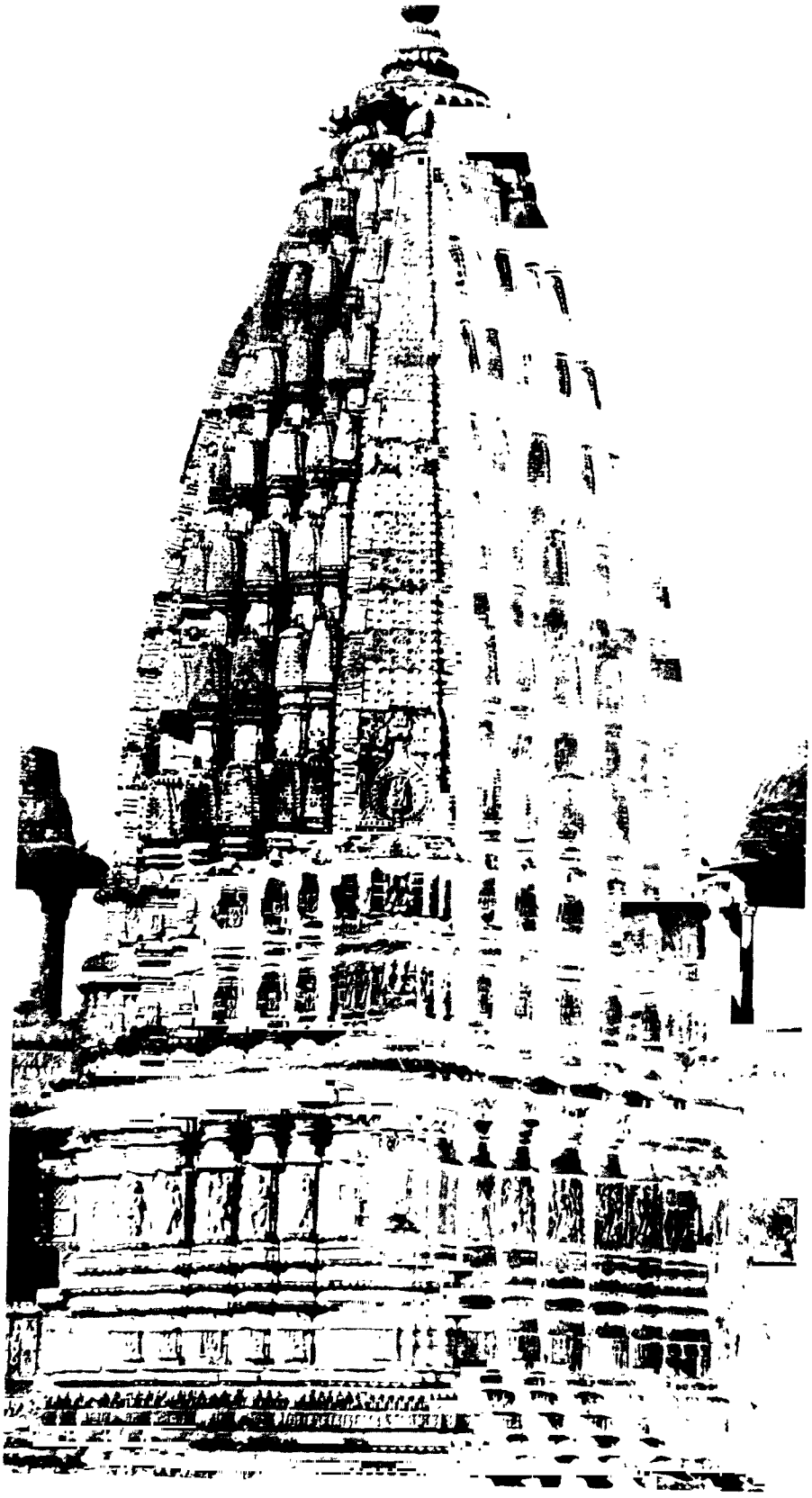


39
Ramgarh. Bhand Deorā temple, pillars of *maṇḍapa*.

40
Ramgarh. Bhand Deorā temple, doorway of sanctum.

41
Ramgarh. Devī temple.

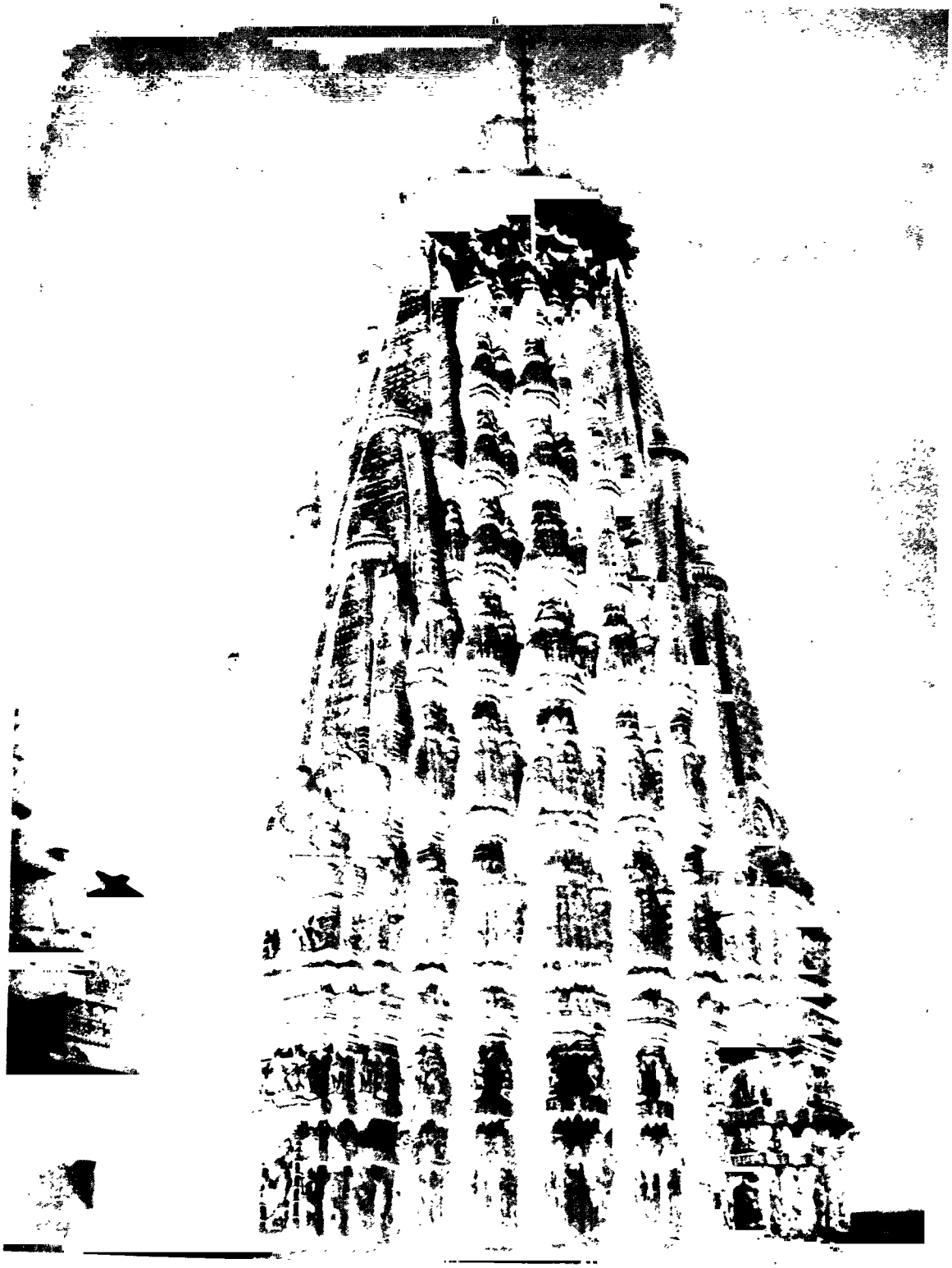




42
Bijolia. Undeśvara temple, back view.

43
Sewari. Mahāvīra temple, *śikhara*, from southwest.

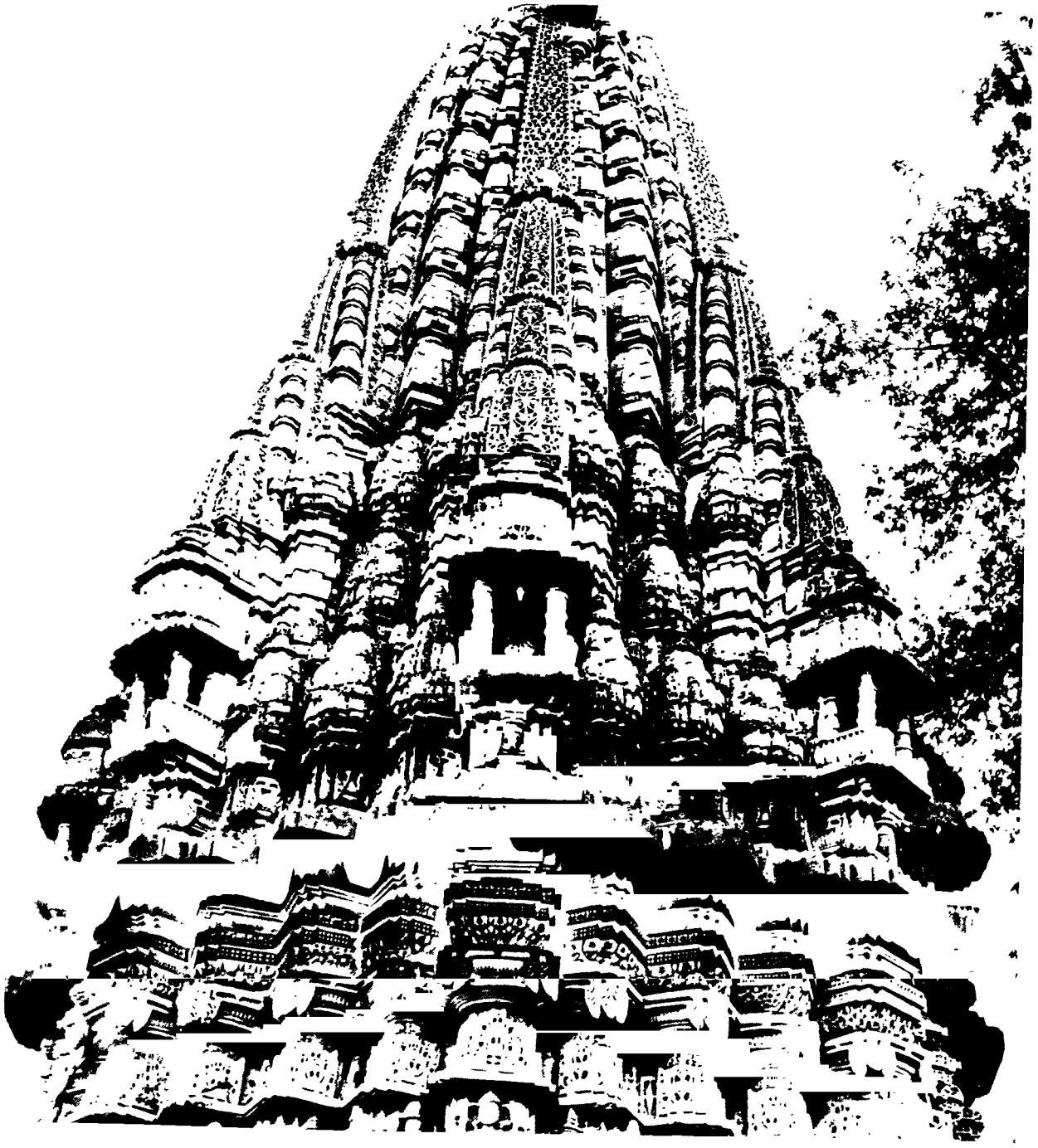
44
Jhalrapatan. Sūrya temple, *śikhara*, from west.

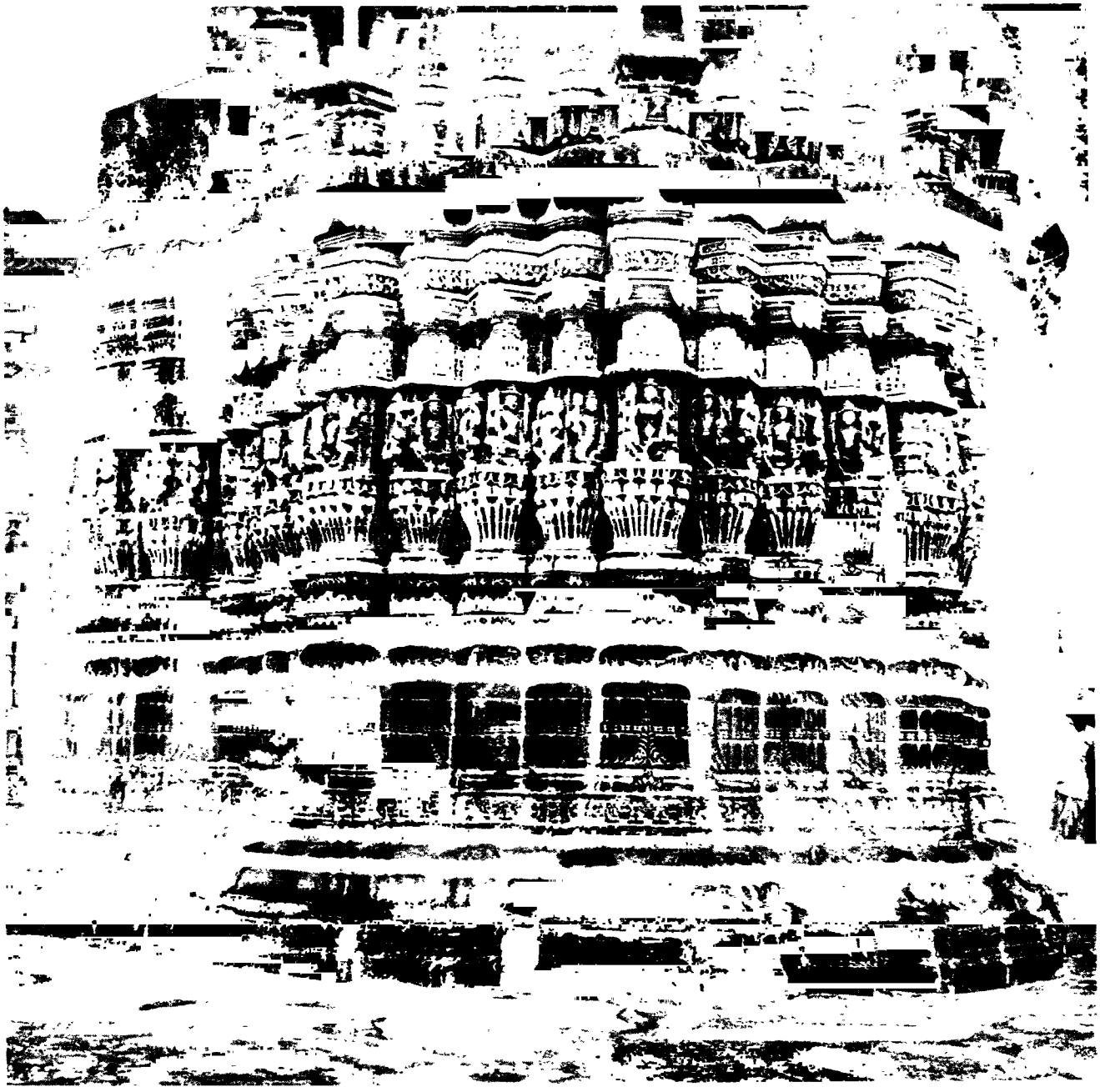


45
Jhalrapatan. Sūrya temple, interior of *maṇḍapa*.

46

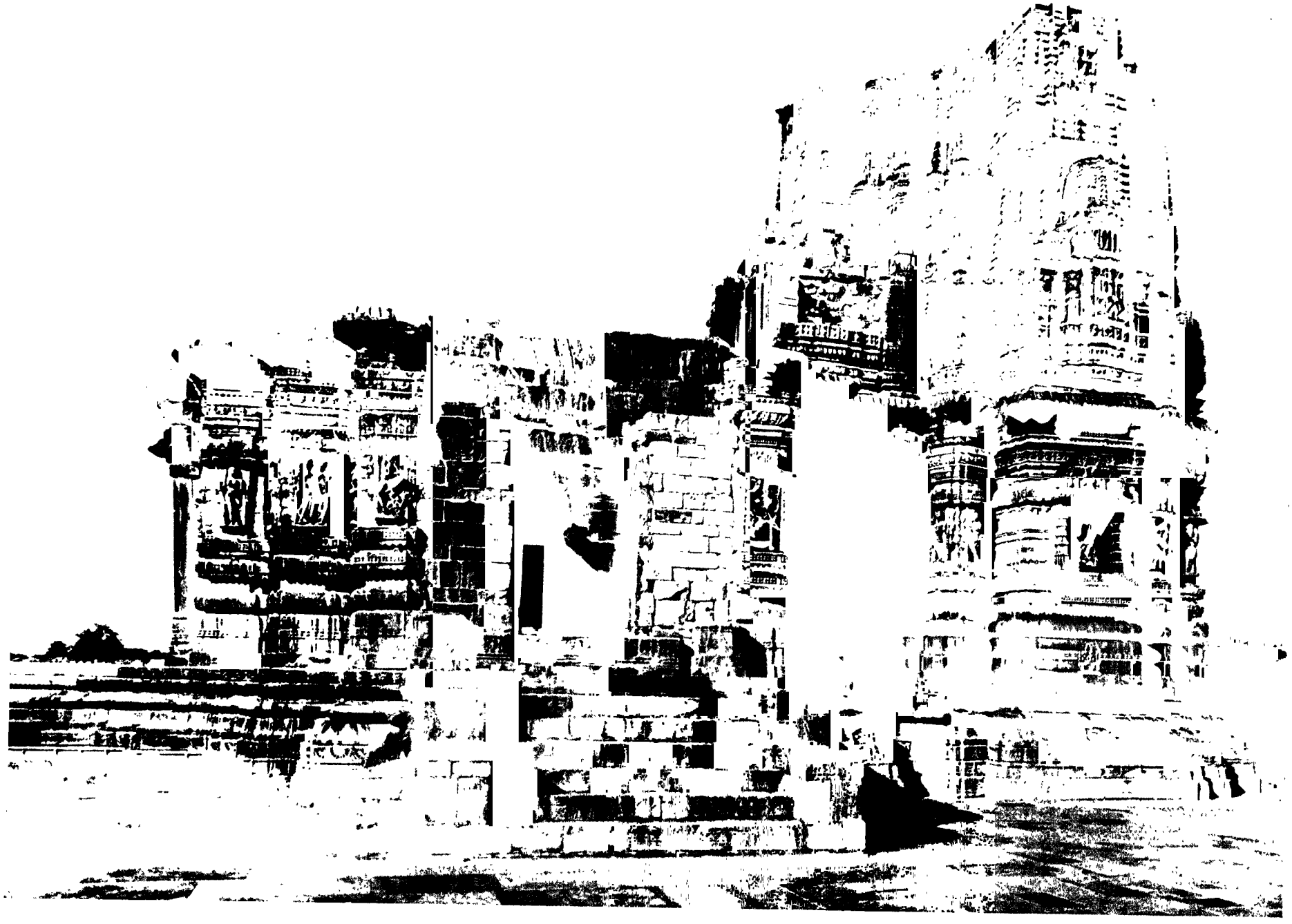
46
Ranakpur, Sūrya temple, *śikhara*.





47

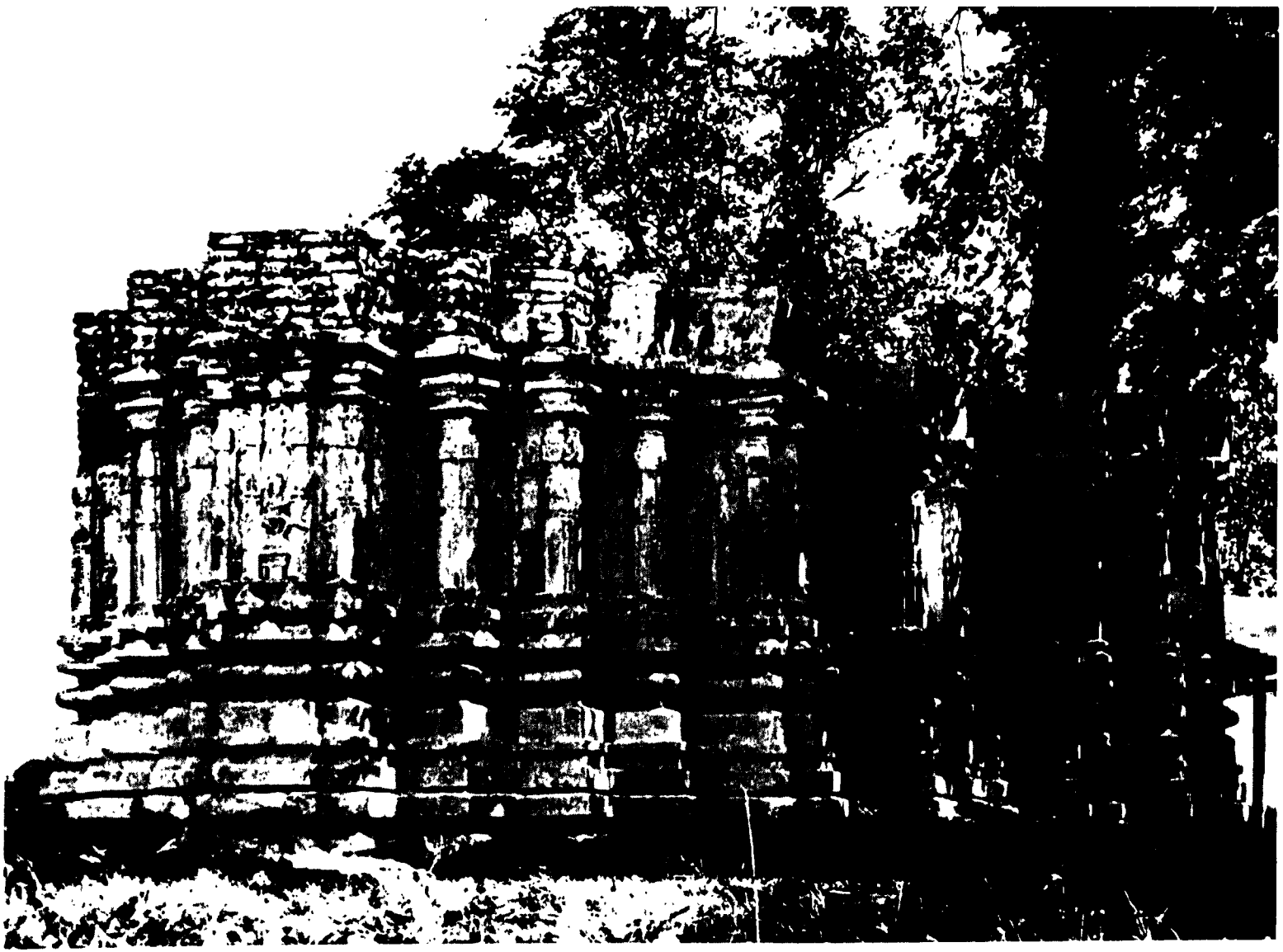
47
Ranakpur. Sūrya temple, *mūlaprāsāda*.



48
Chittor. Adbhutnātha temple.

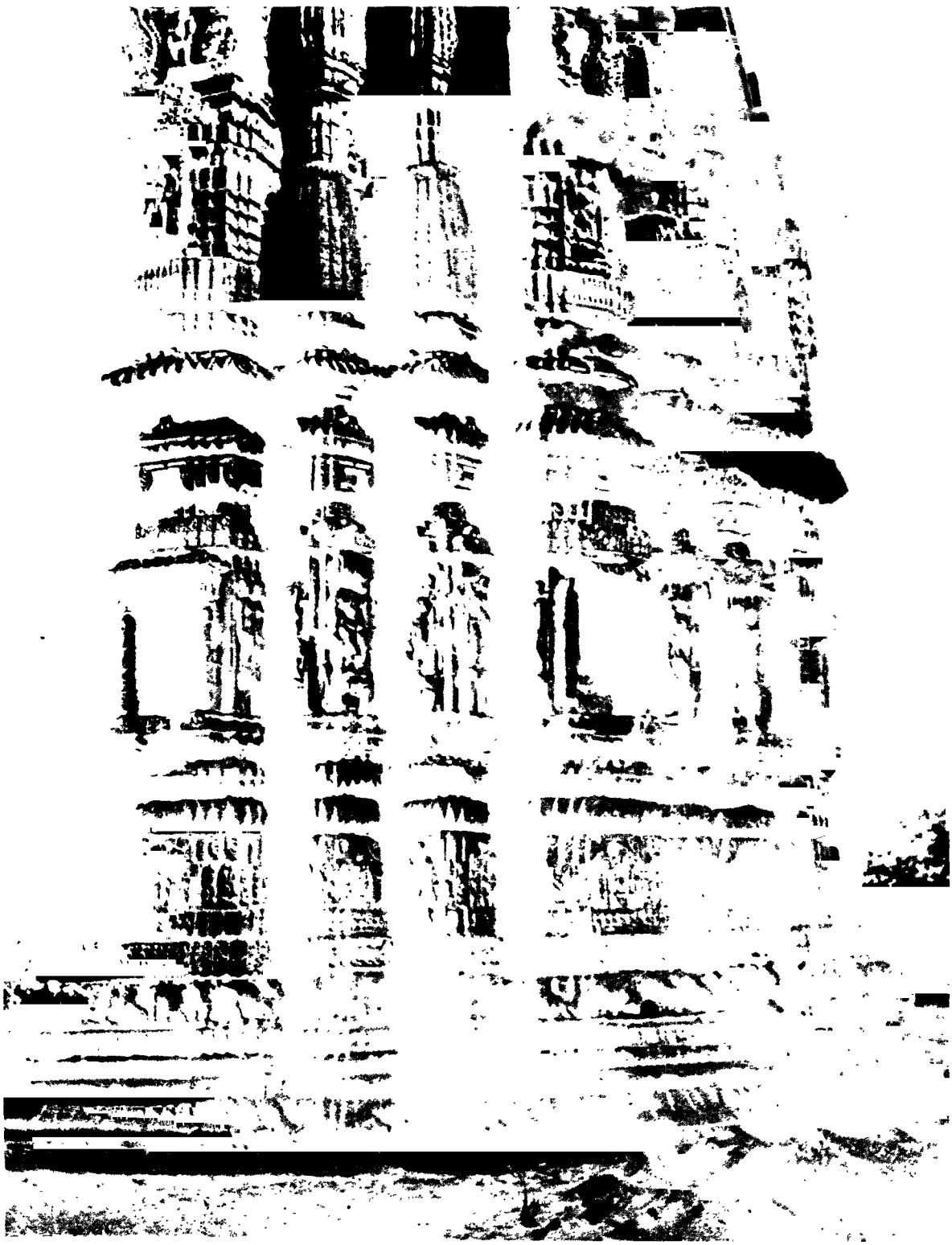
49
Limkheda. Triple-temple.

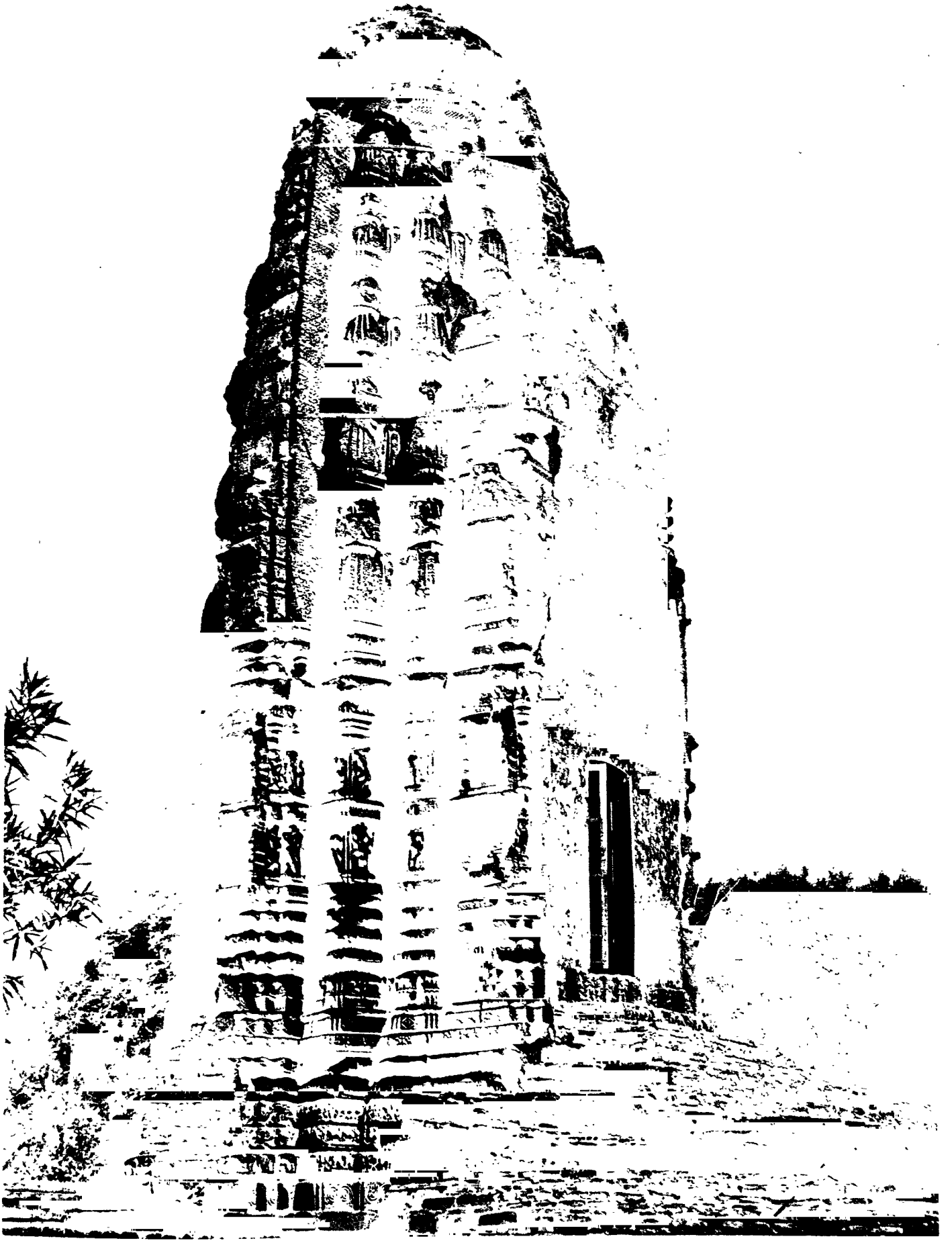
49



50
Sarnel. Galateśvara temple.

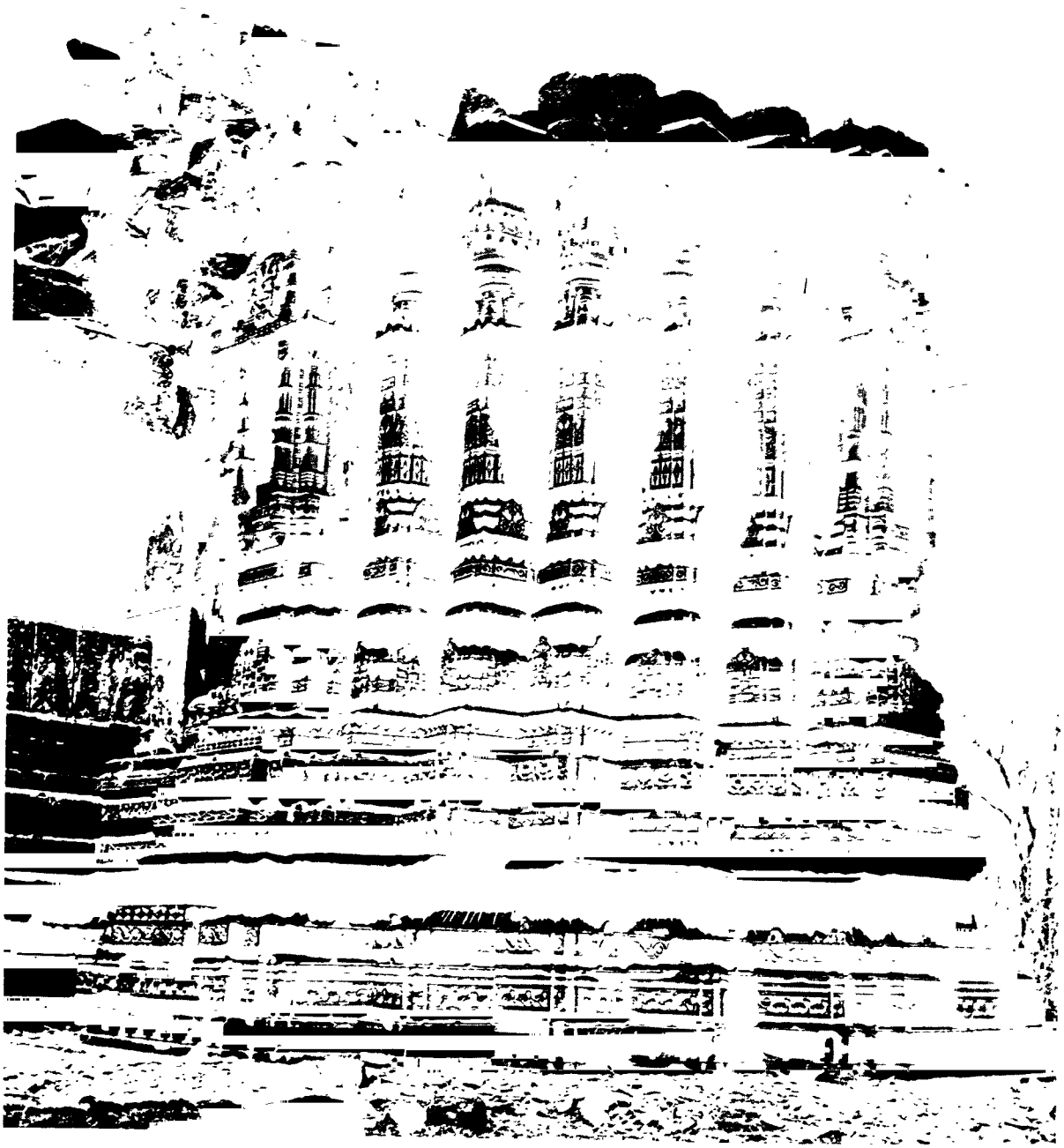
51
Arang. Bhand Dewal.





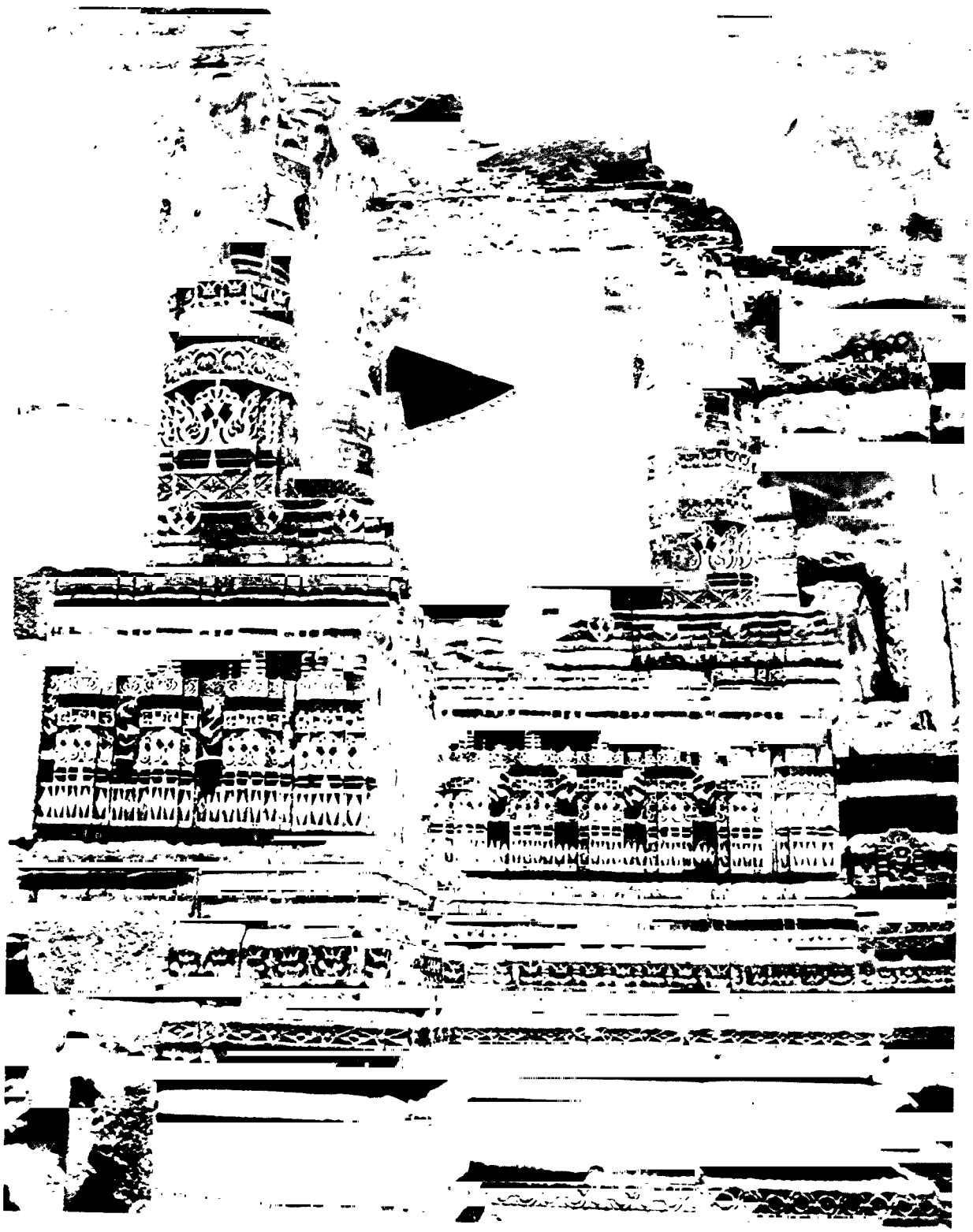
52
Ajayagarh. Temple No. 1.

53
Ajayagarh. Temple No. 1, southern façade.



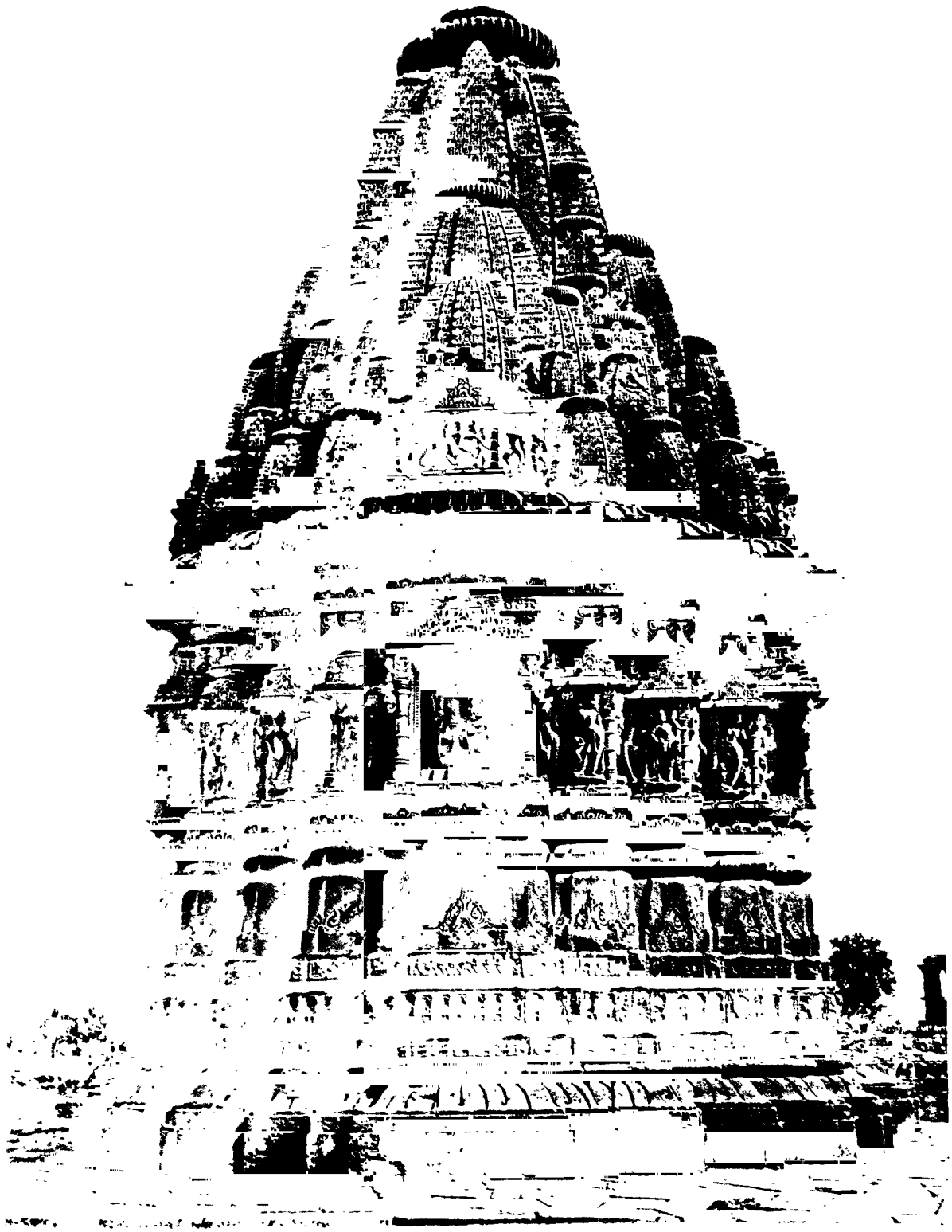
52

54
Ajayagarh. Temple No. 2,
raṅgamaṇḍapa.



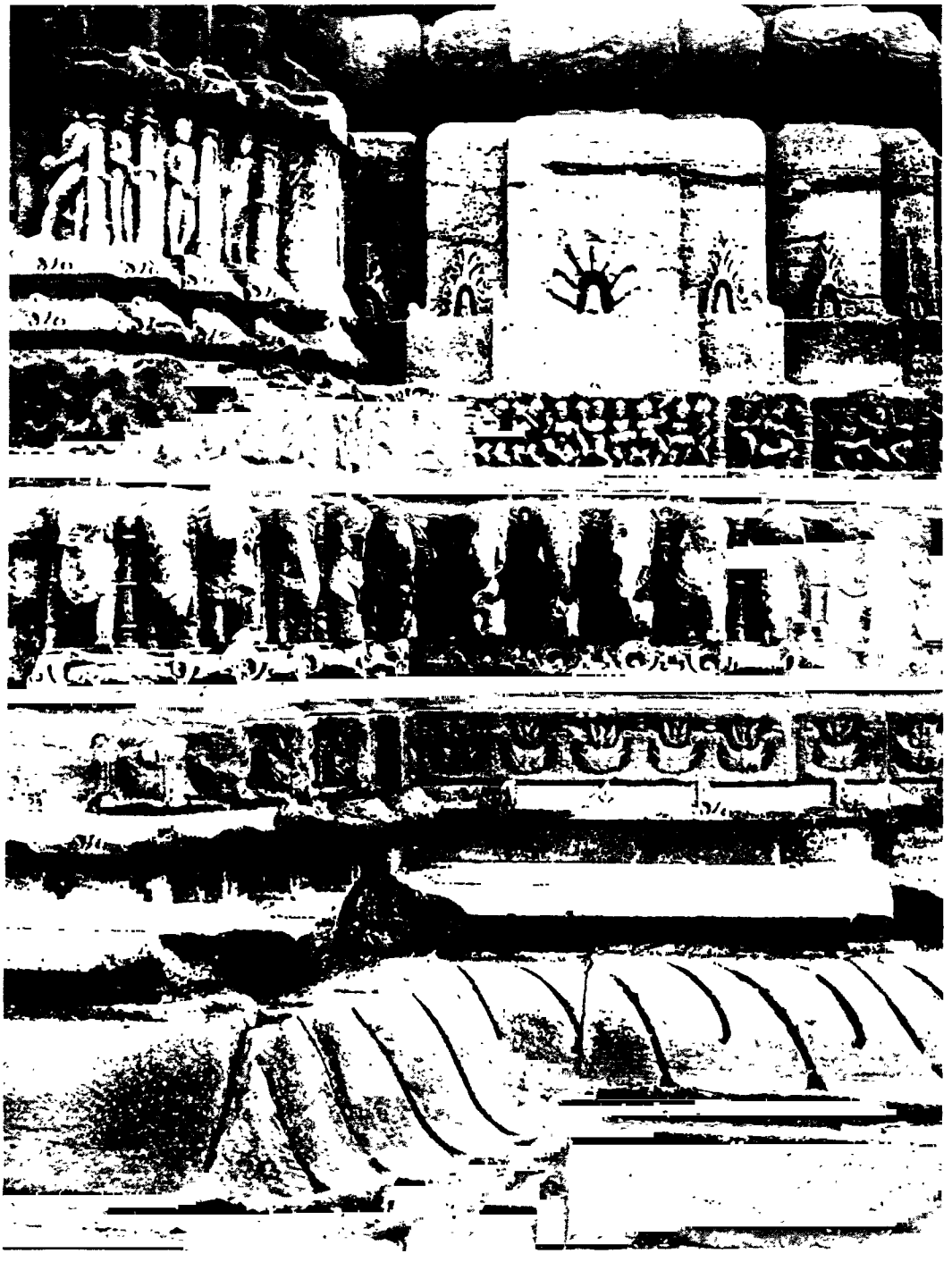
54

55
Kiradu. Smaller Śiva temple, *mūlaprāsāda*, back view. Māru-Gurjara style, *c.* second quarter of the eleventh century.



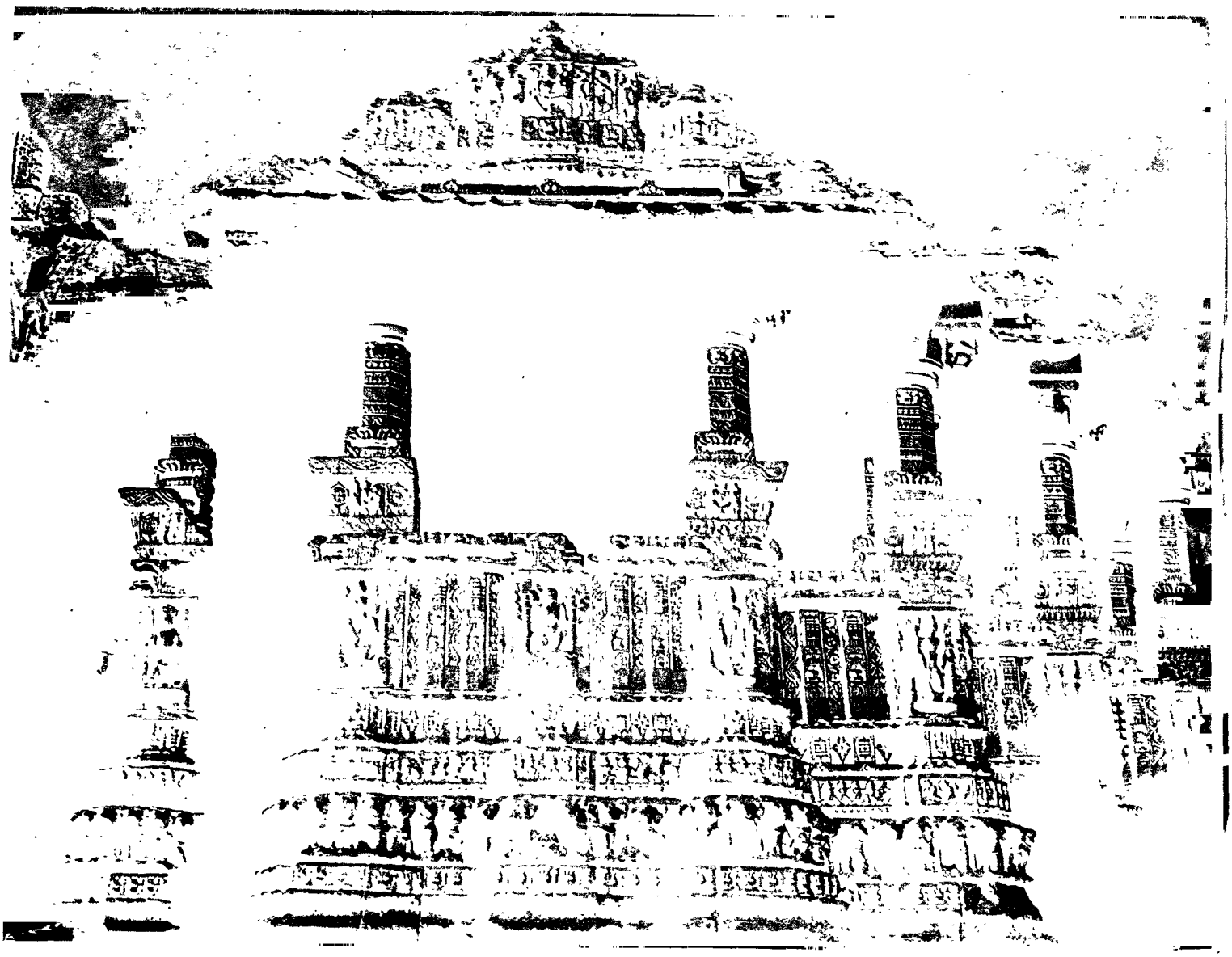
56
Modhera. Sun temple, main shrine, detail of the *pīṭha*. Māru-Gurjara style, A.D. 1027.

57
Modhera. Sun temple, main shrine, detail of the *maṇḍovara*. Māru-Gurjara style, A.D. 1027



58
Sejakpur. Navalakhā temple, *raṅgamaṇḍapa* Māru-Gurjara style, *c.* early twelfth century.

59
Modhera. Sun temple, *raṅgamaṇḍapa*, interior. Māru-Gurjara style, *c.* third quarter of the eleventh century.

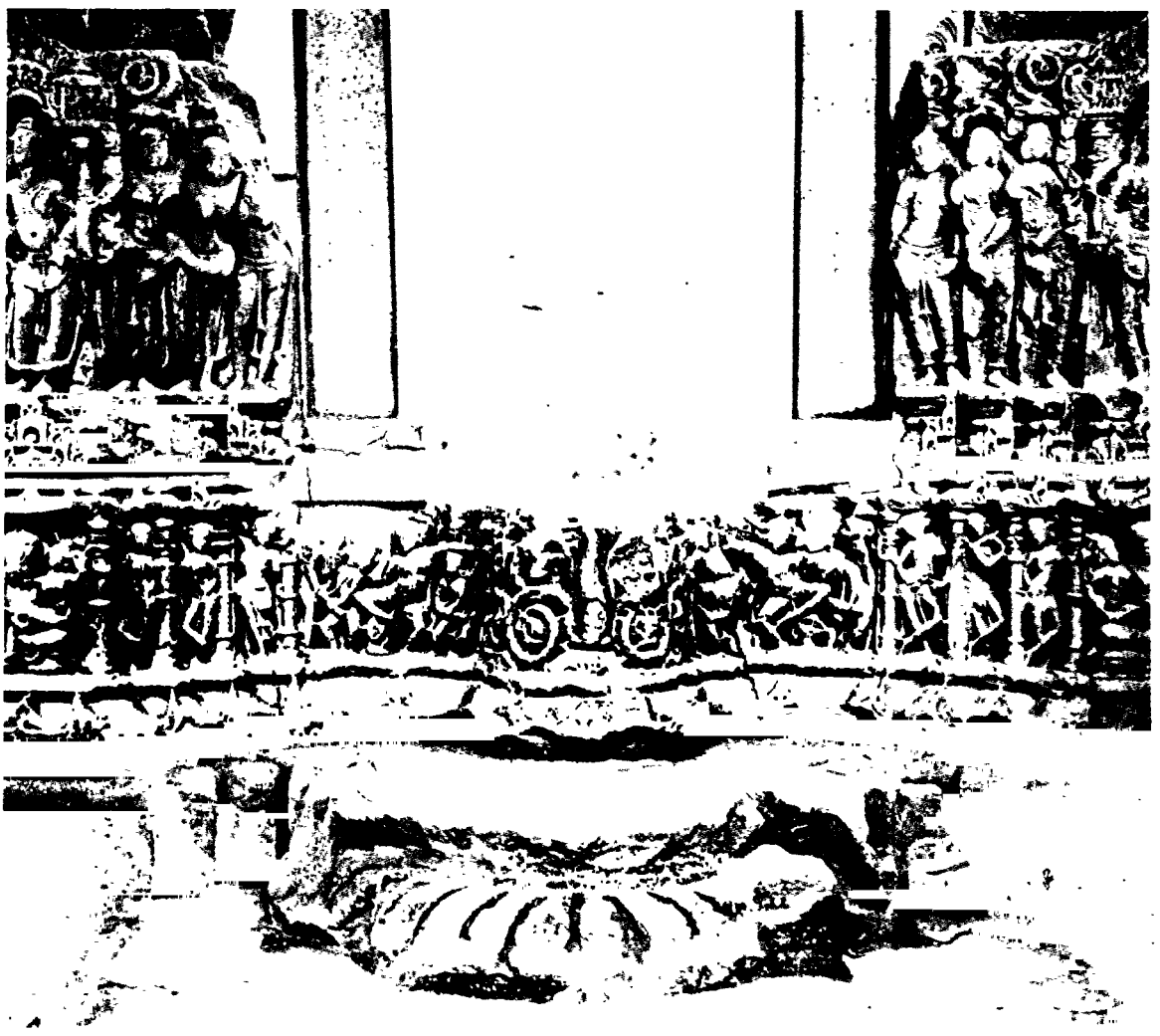


59

60
Kiradu. Someśvara temple, doorframe of the *garbhagṛha*. Māru-Gurjara style, *c.* A.D. 1020.

61
Modhera. Sun temple, *garbhagṛha*, detail of the *udumbara*. Māru-Gurjara style, *c.* A.D. 1027.

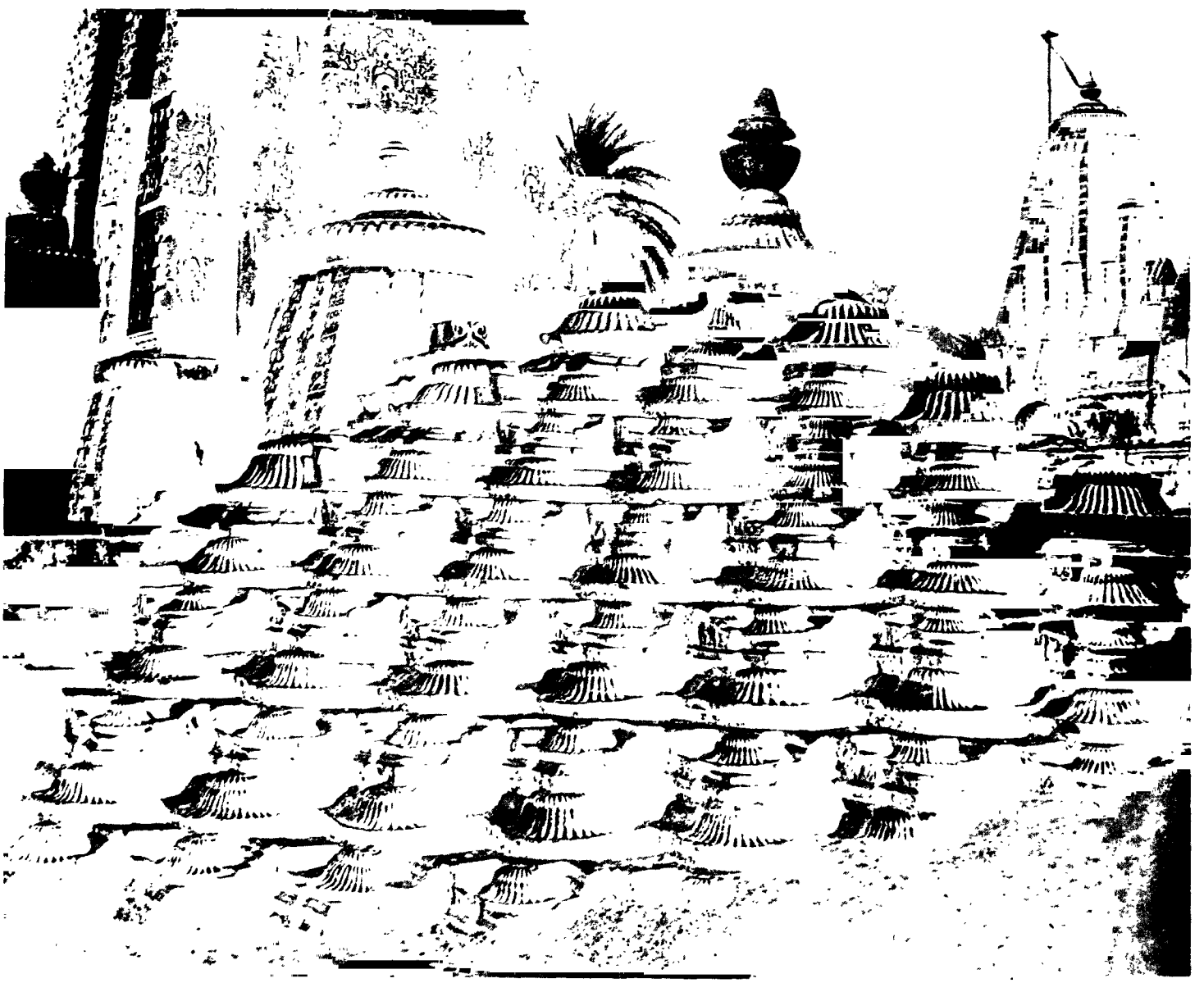
61

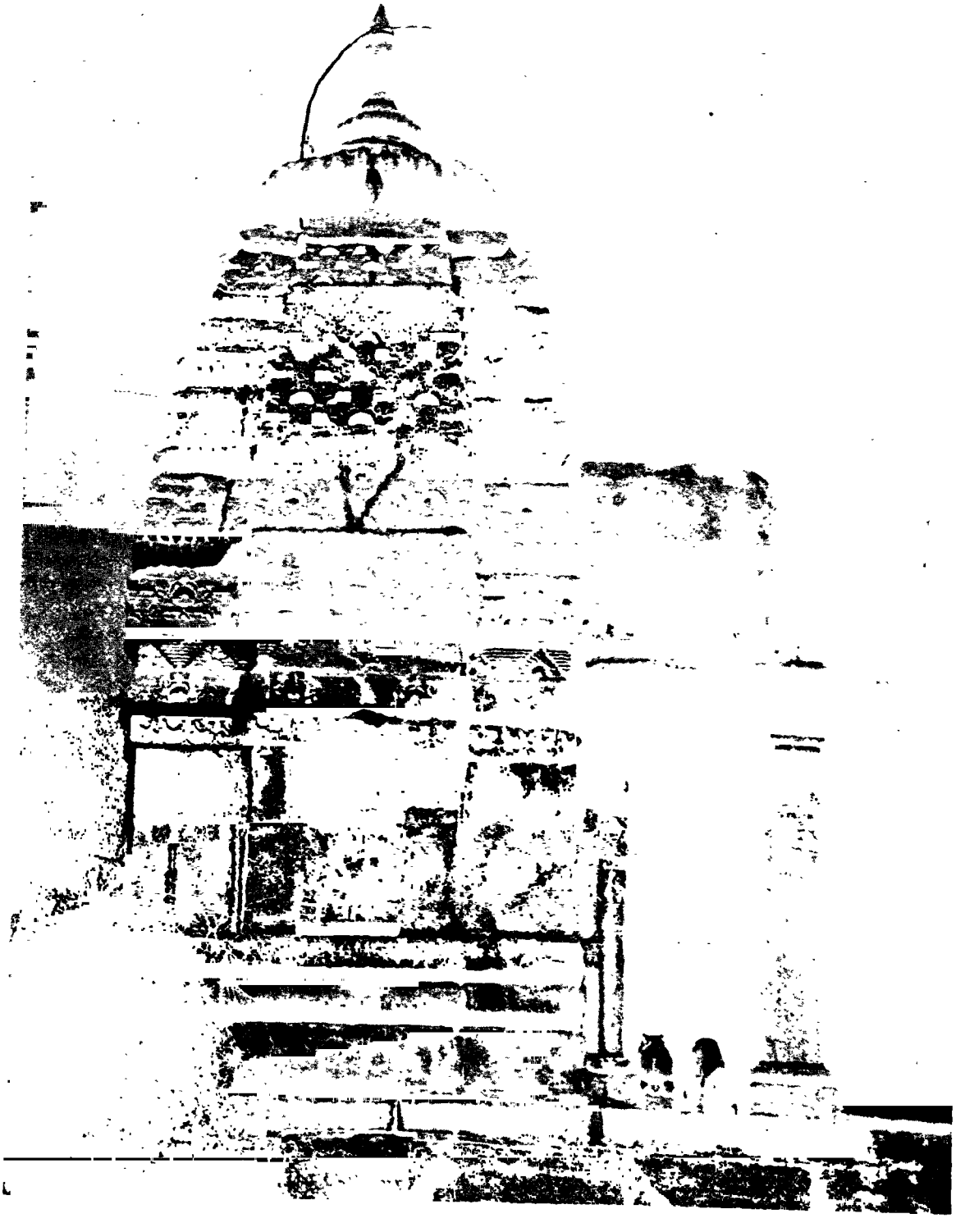


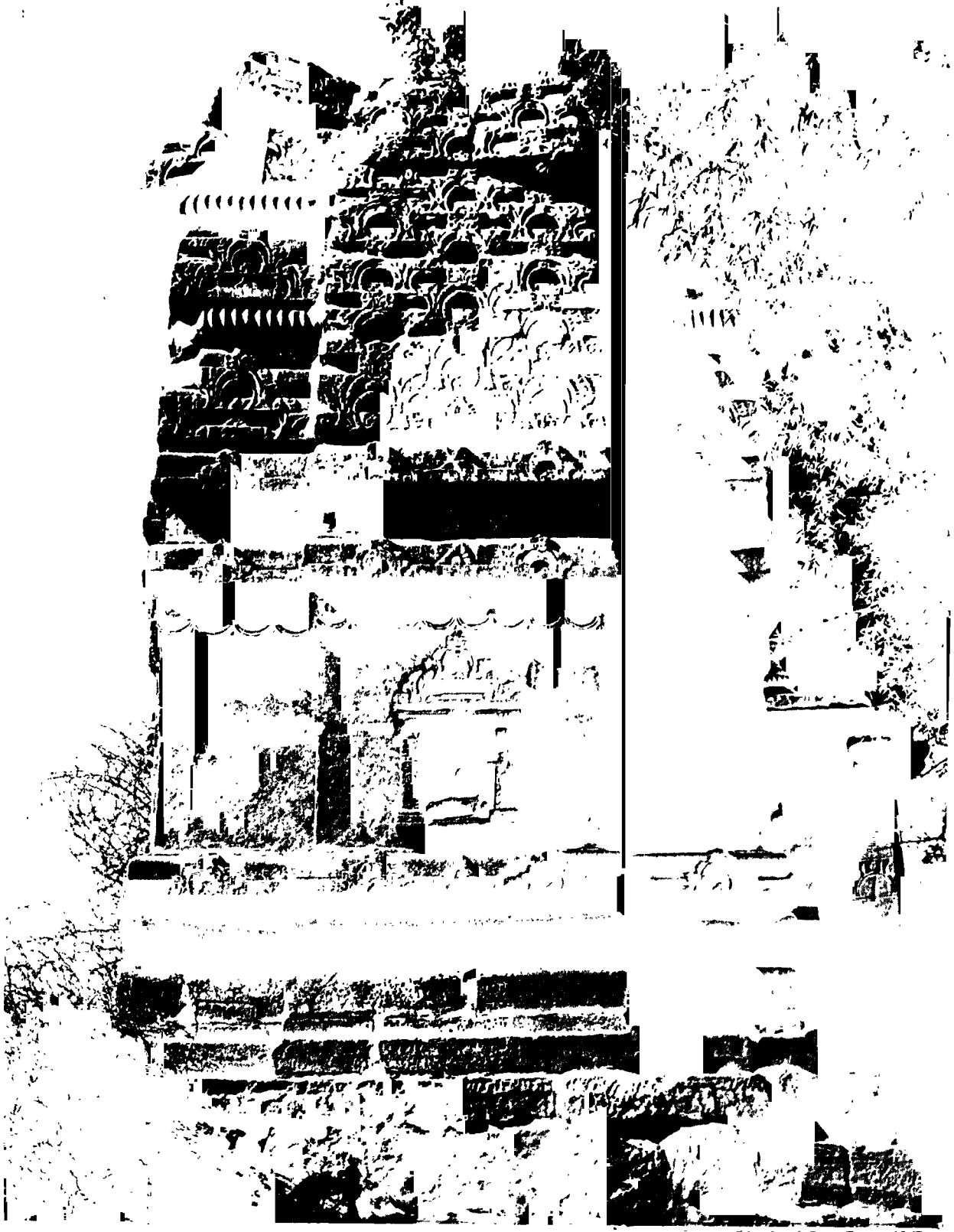
62
Kumbharia. Mahāvīra temple.
saṁvaraṇā roof. Māru-Gurjara style.
A.D. 1062.

63
Buchkala. Śiva temple. Mahā-Māru
style, Maru School. *c.* A.D. 815.

62







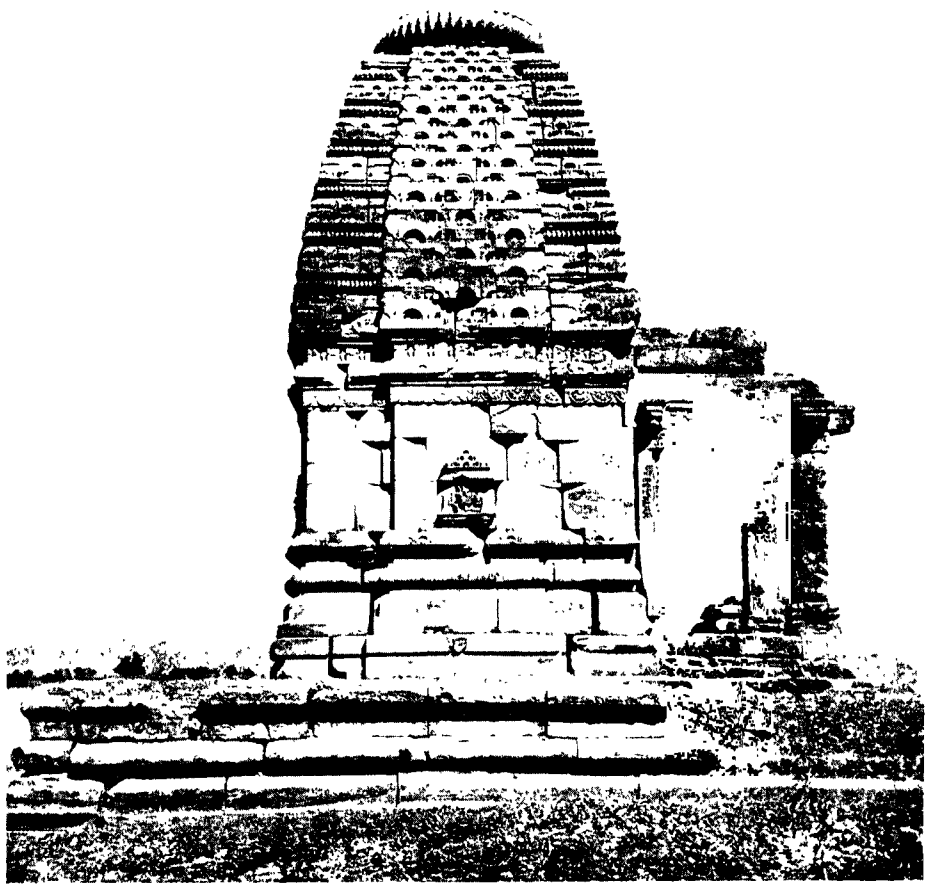
64
Buchkala. Pārvatī temple. Mahā-Māru style. Maru school, A.D. 815.

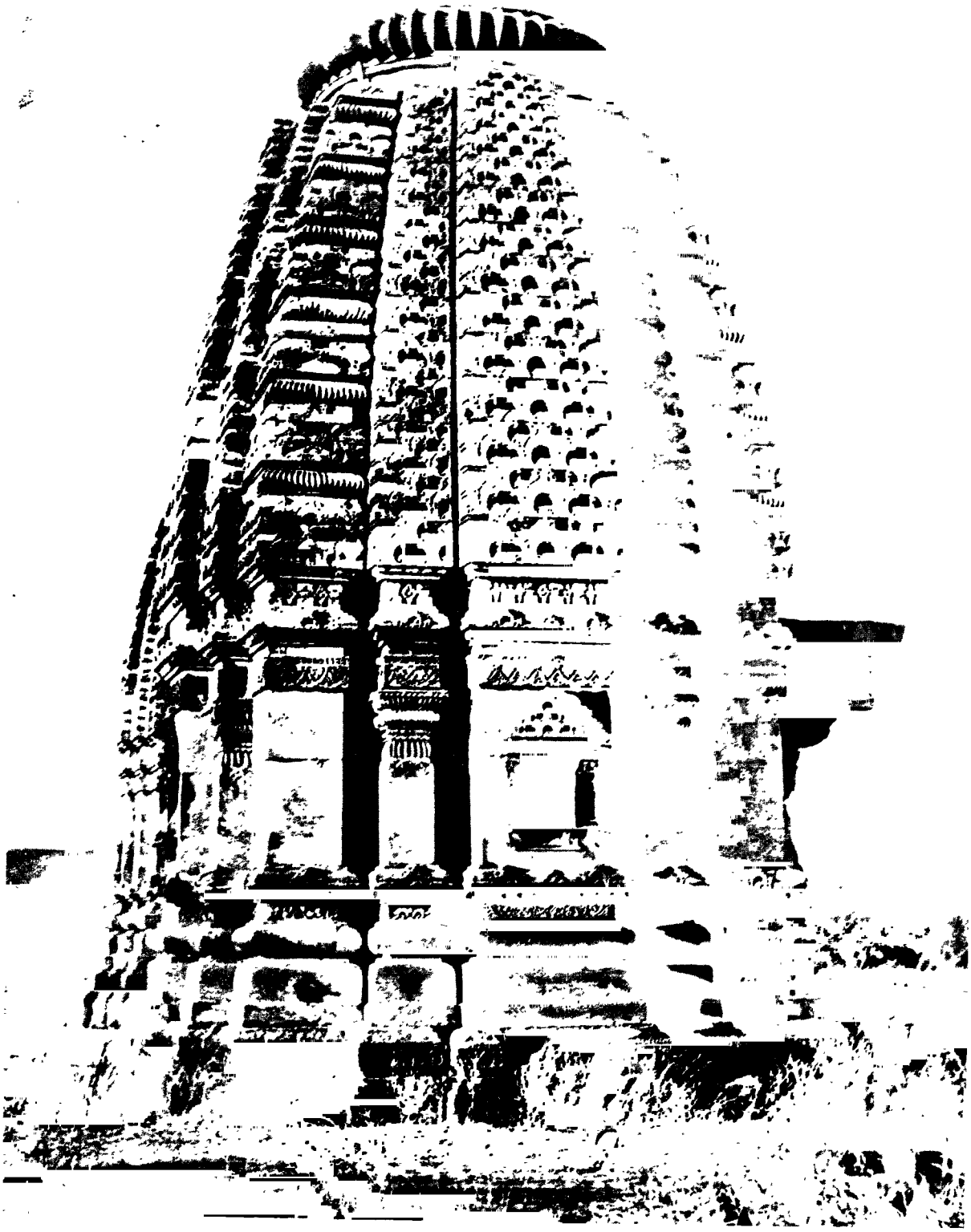
66

65
Roda. Temple I. Mahā-Gurjara style, Ānarta school, *c.* late eighth century.

66
Osia. Viṣṇu temple. Mahā-Māru style, Maru school, *c.* late eighth century.

65





67
Roda. Temple III. Mahā-Gurjara style, Ānarta school, *c.* late eighth century.

68
Chittor. Temple of Kṣemaṅkarī, detail of the *kaṭi*. Mahā-Māru style. Medapāṭa school, *c.* early ninth century.

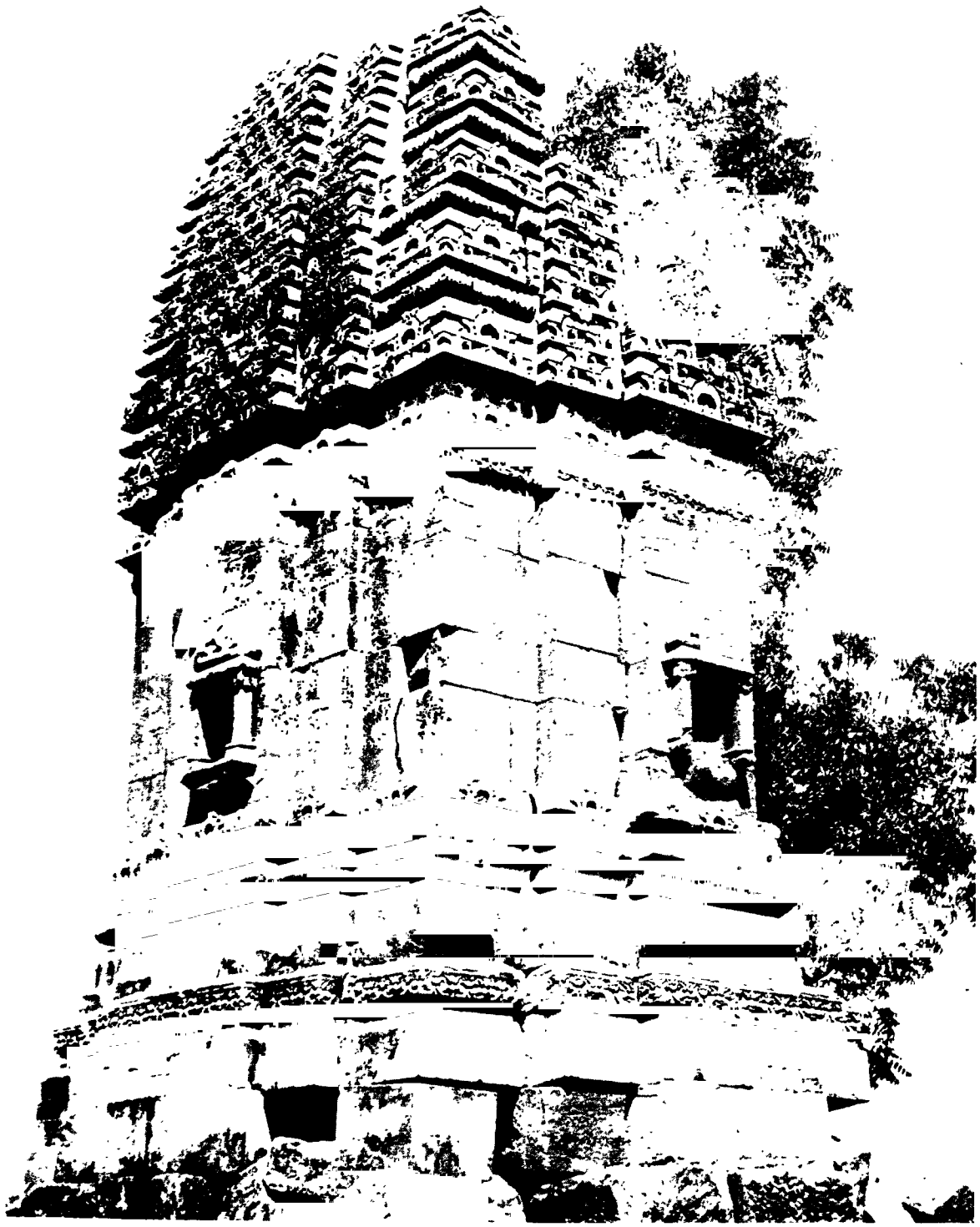
68

69
Roda. Temple III, detail of the *kaṭi*.
Mahā-Gurjara style, Ānarta school,
c. late eighth century.

70

70
Bhundana. Mahādeva temple. Mahā-Māru style, Maru-Sapādalakṣa school, *c.* first half of the ninth century.

71
Dedadara. Maṇiyārā Mahādeva temple.
Mahā-Gurjara style, Ānarta school,
c. early ninth century.



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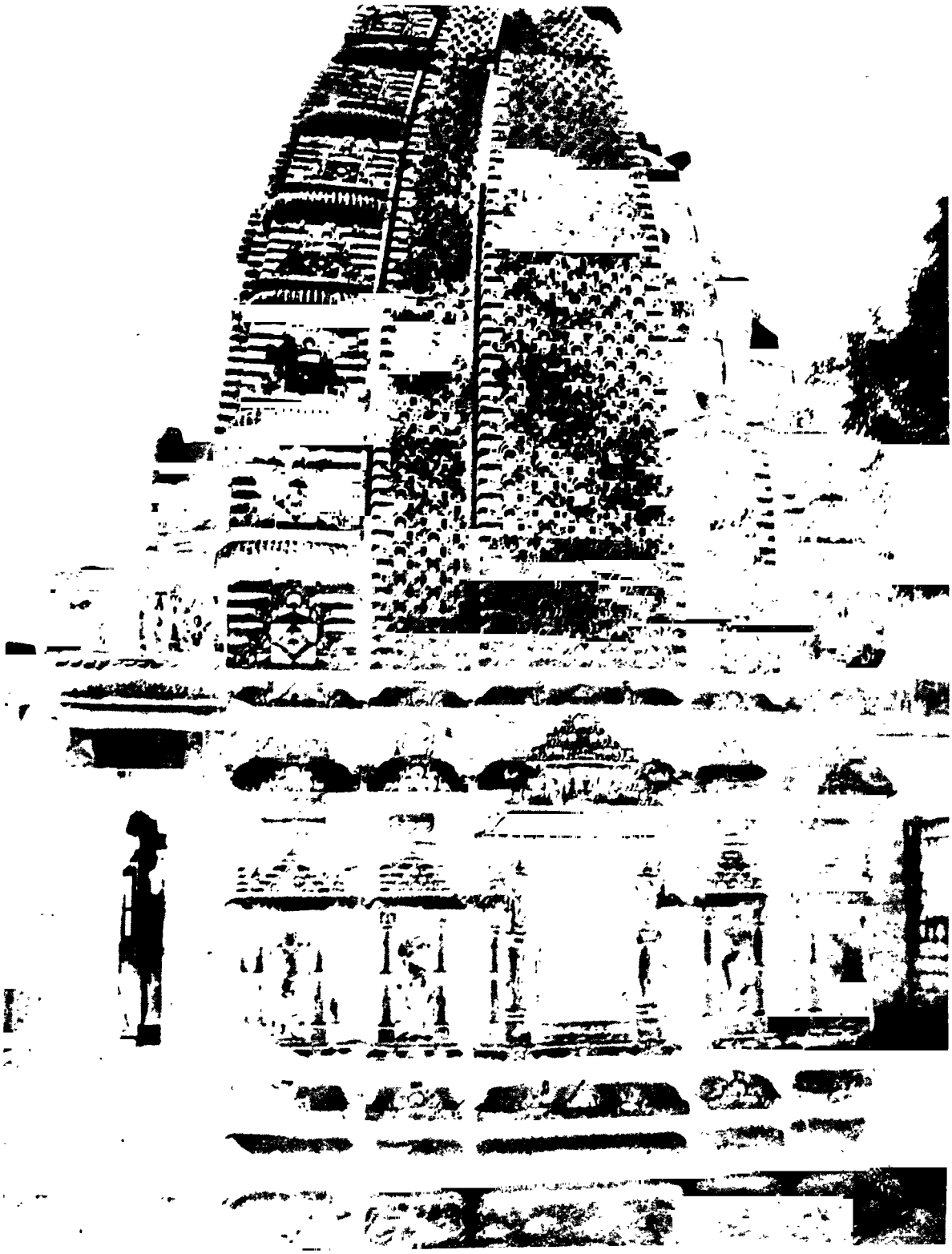
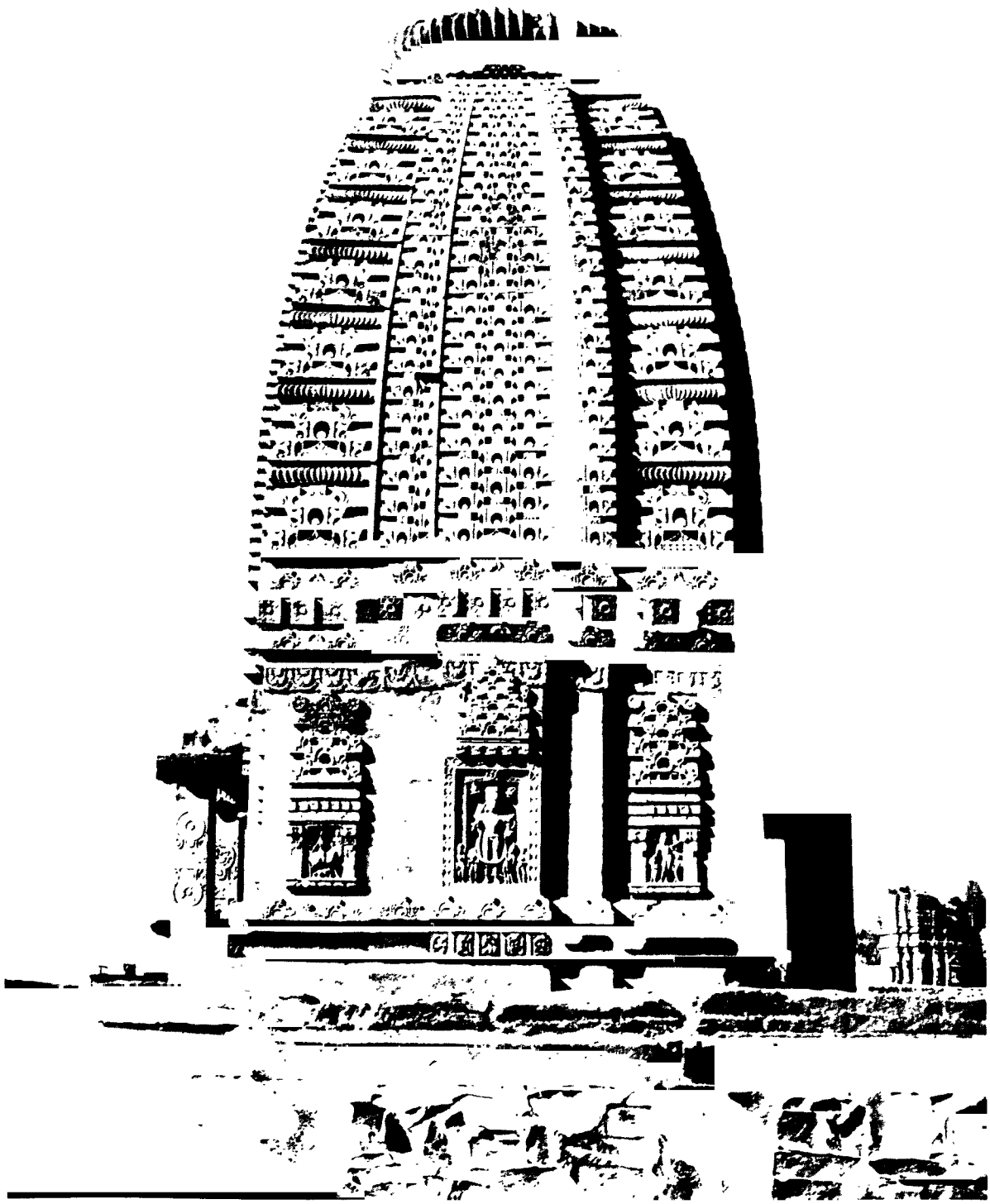


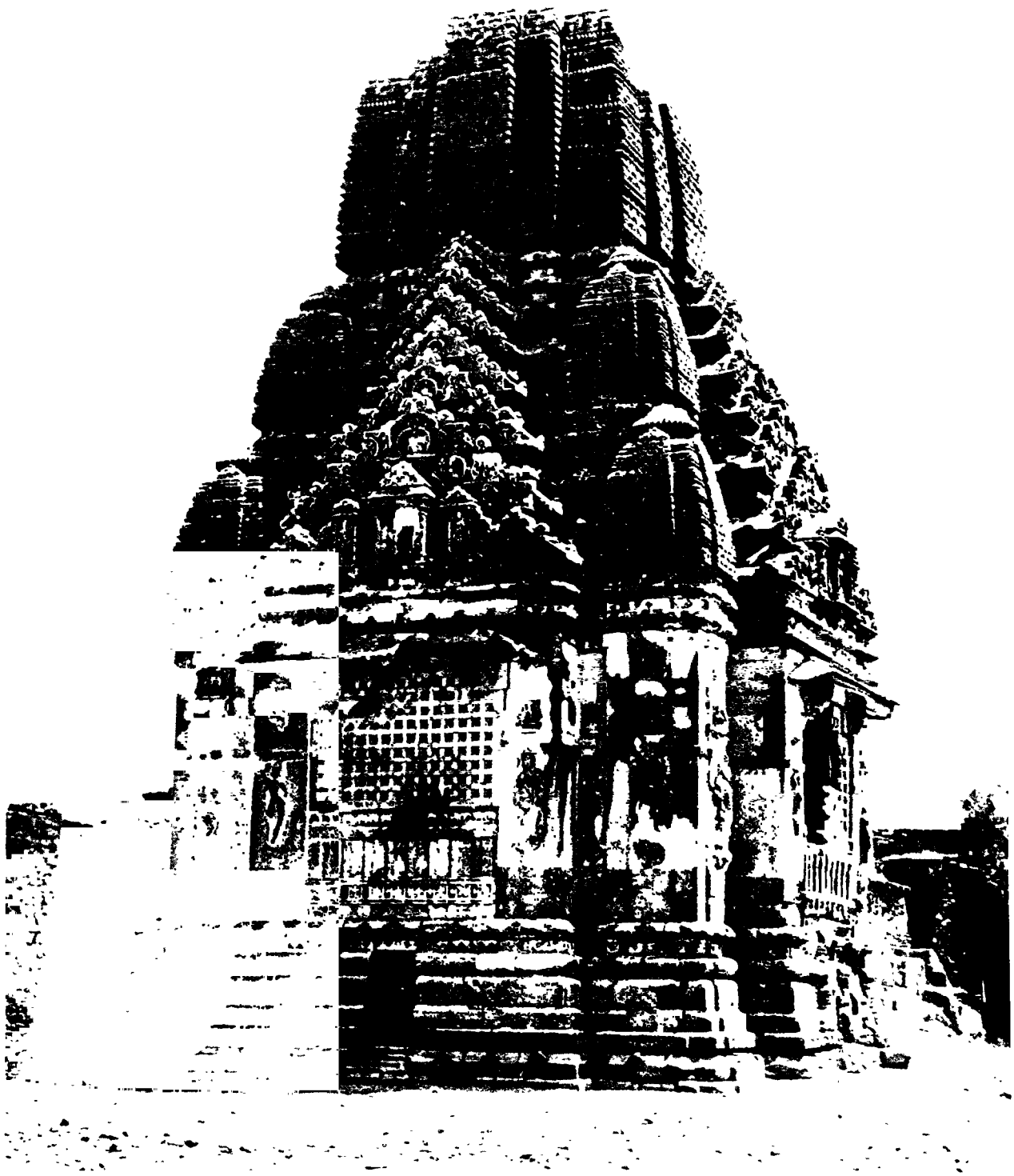
72
Kekind. Nīlakaṇṭheśvara temple.
Mahā-Māru style, Sapādalakṣa school,
c. mid-tenth century.

73
Osia. Sun temple, lower part of the building in Mahā-Māru style of *c.* late eighth century; *śikhara* in Mahā-Gurjara style of latter half of the tenth century.

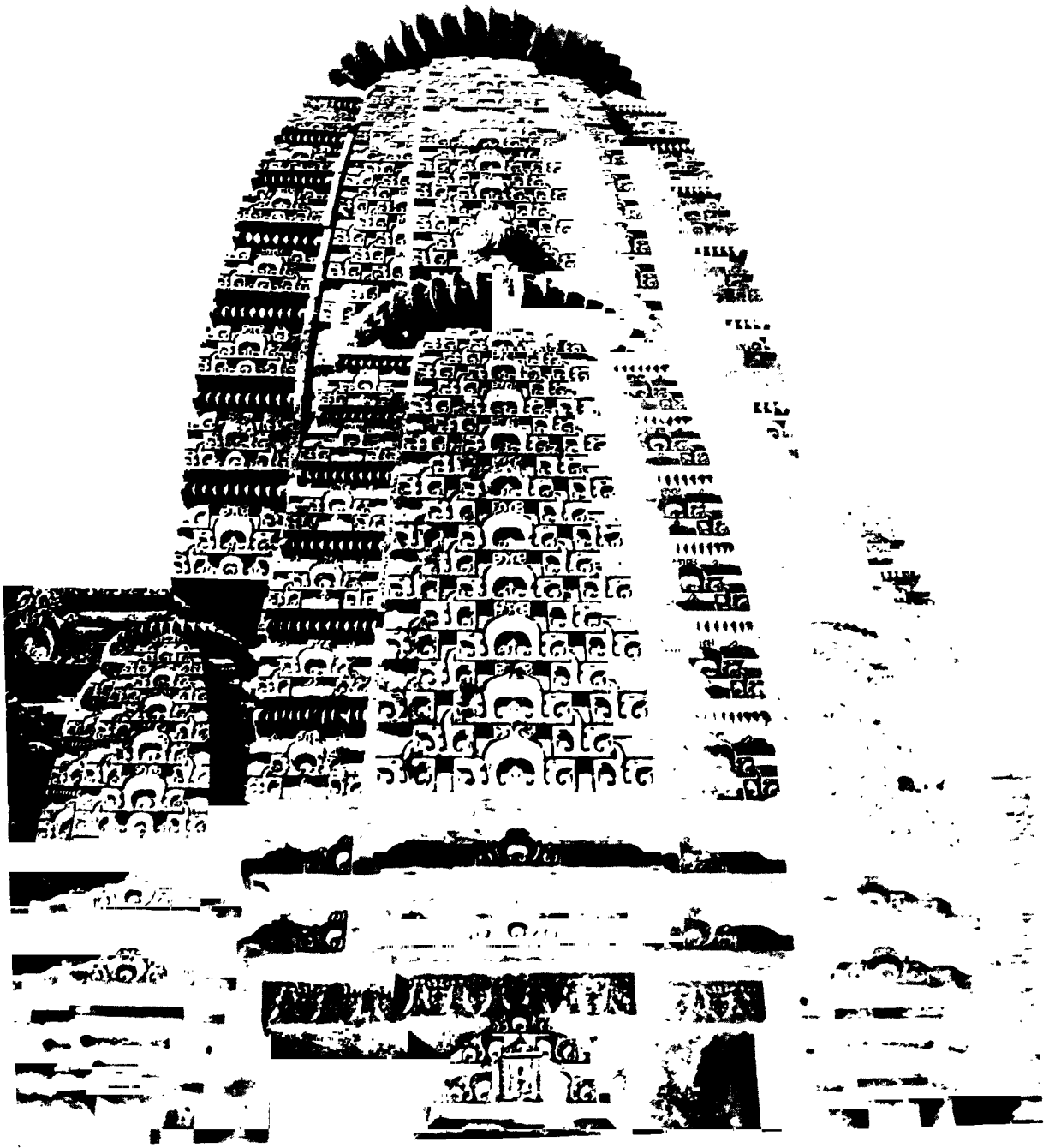


74

74
Kerakot. Lākheśvara temple. Mahā-Gurjara style. Ānarta school, *c.* second quarter of the tenth century.

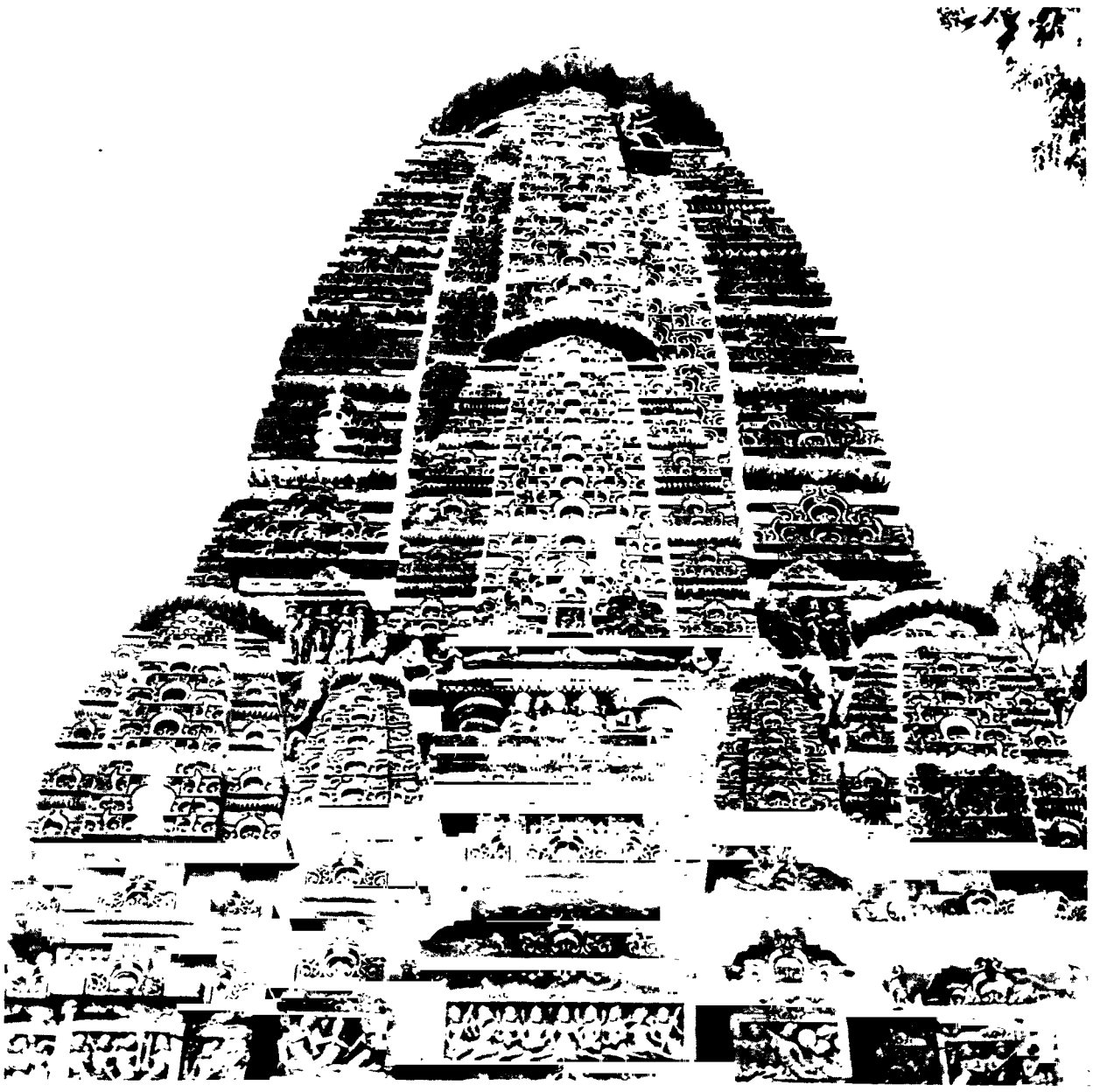


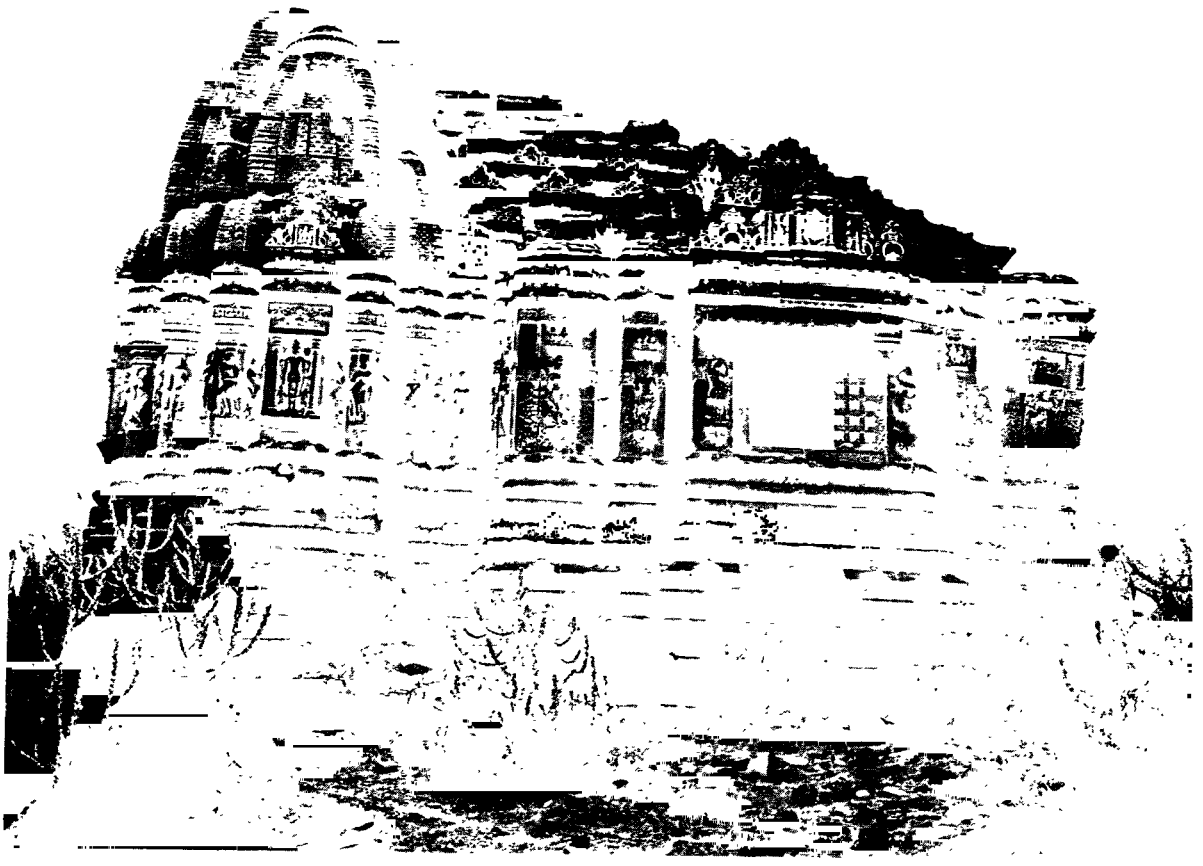
75
Nagada. Sāsbahu temple, *śikhara* of *devakulikā*-shrine. Mahā-Gurjara style, *c.* late tenth century.



76

76
Jagat. Ambikā temple, *śikhara*. Mahā-Gurjara style, Medapāṭa school, A.D. 961.





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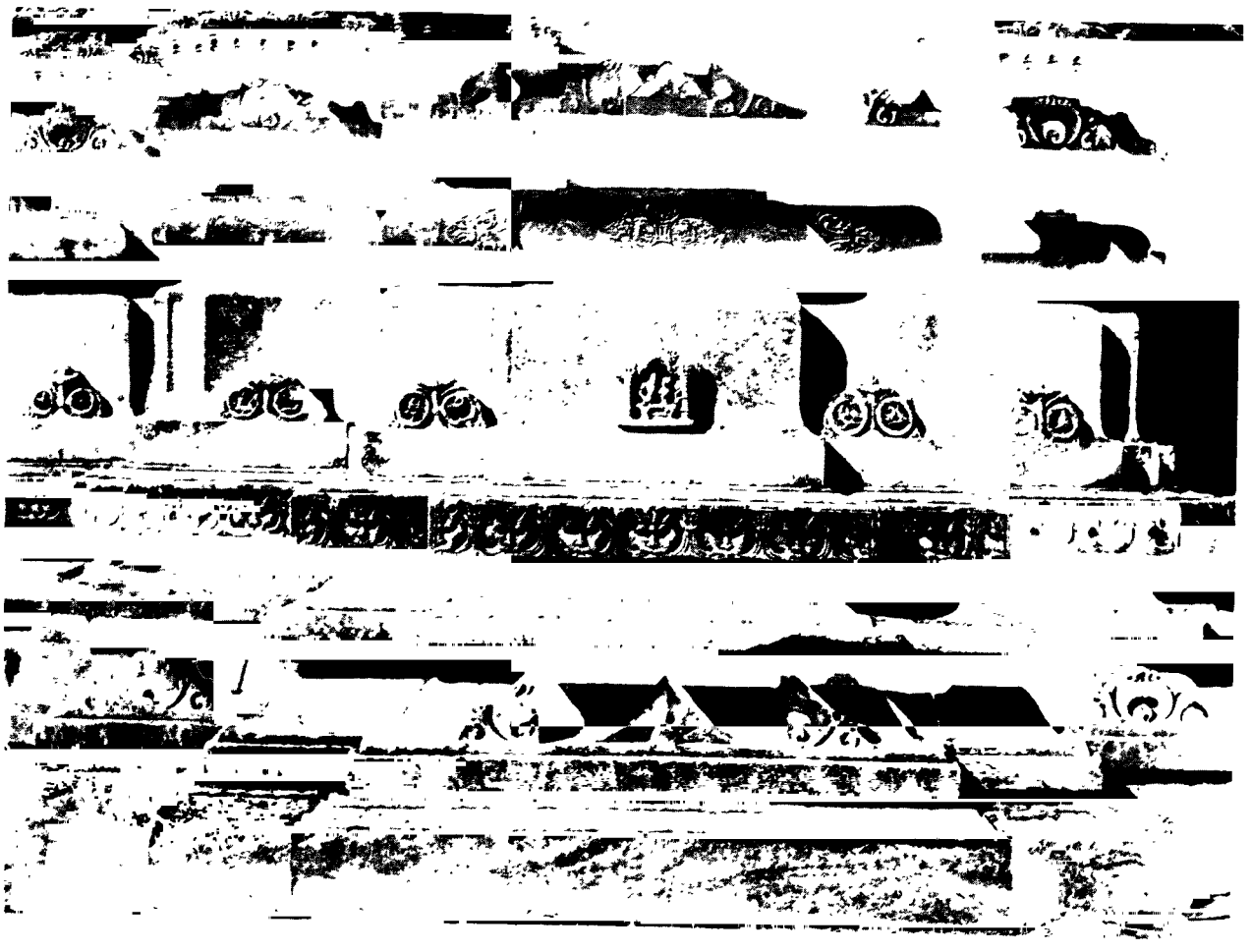


78

77
Kotai. Śiva temple. Mahā-Gurjara style, Ānarta school, *c.* tenth century.

78
Ahar. Mīrā temple, *pīṭha* and *vedībandha*. Mahā-Gurjara style, Medapāṭa school, *c.* late tenth century.

79
Ahar. Mahāvīra temple, *pīṭha* and *vedībandha*, style of the transition period, *c.* A.D. 1000.

79

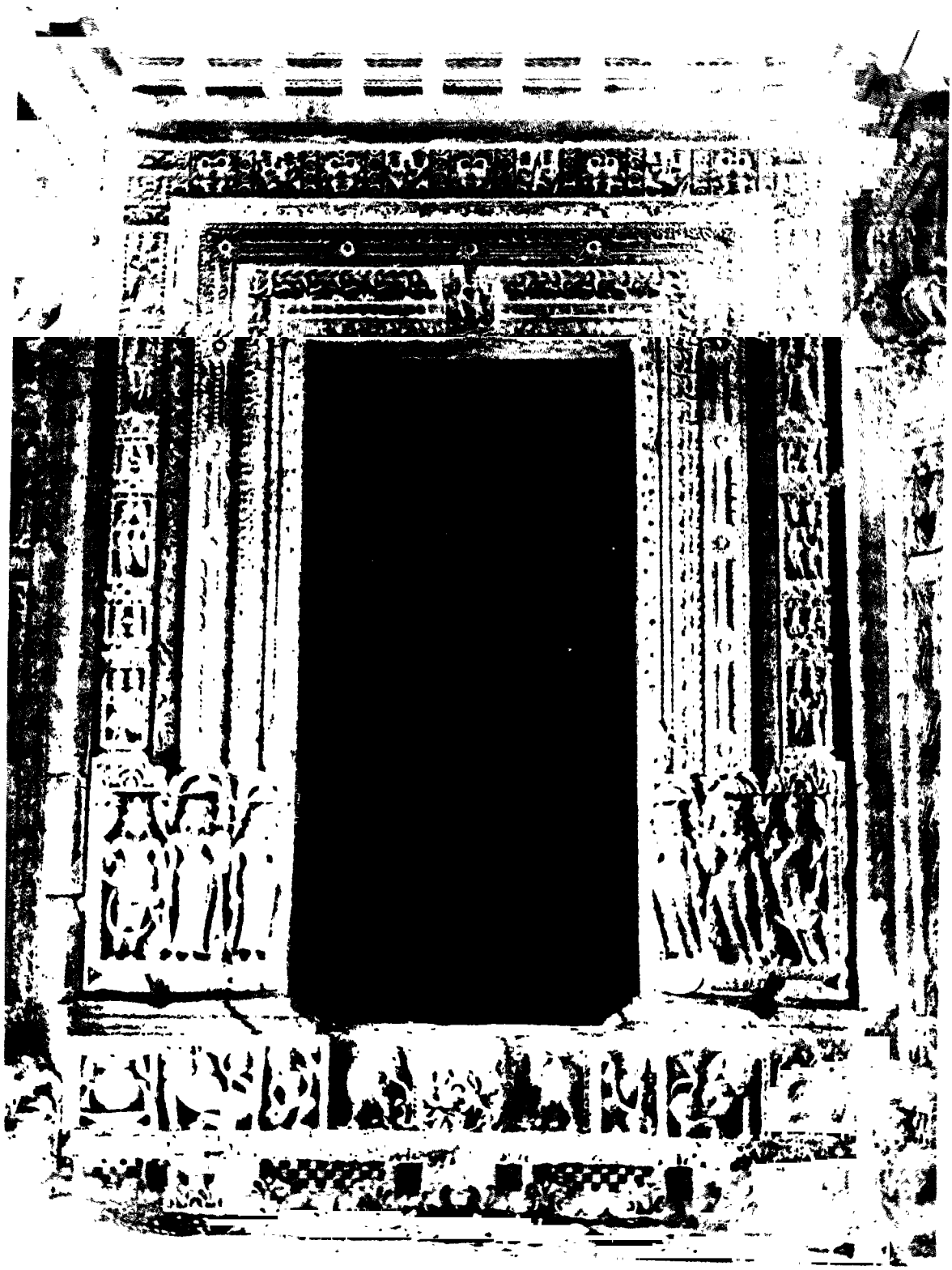
80
Osia. Sun temple, doorframe. Mahā-Māru style, Maru school, *c.* late eighth century.

81
Roda. Temple III, doorframe. Mahā-Gurjara style, Ānarta school, *c.* late eighth century.

80

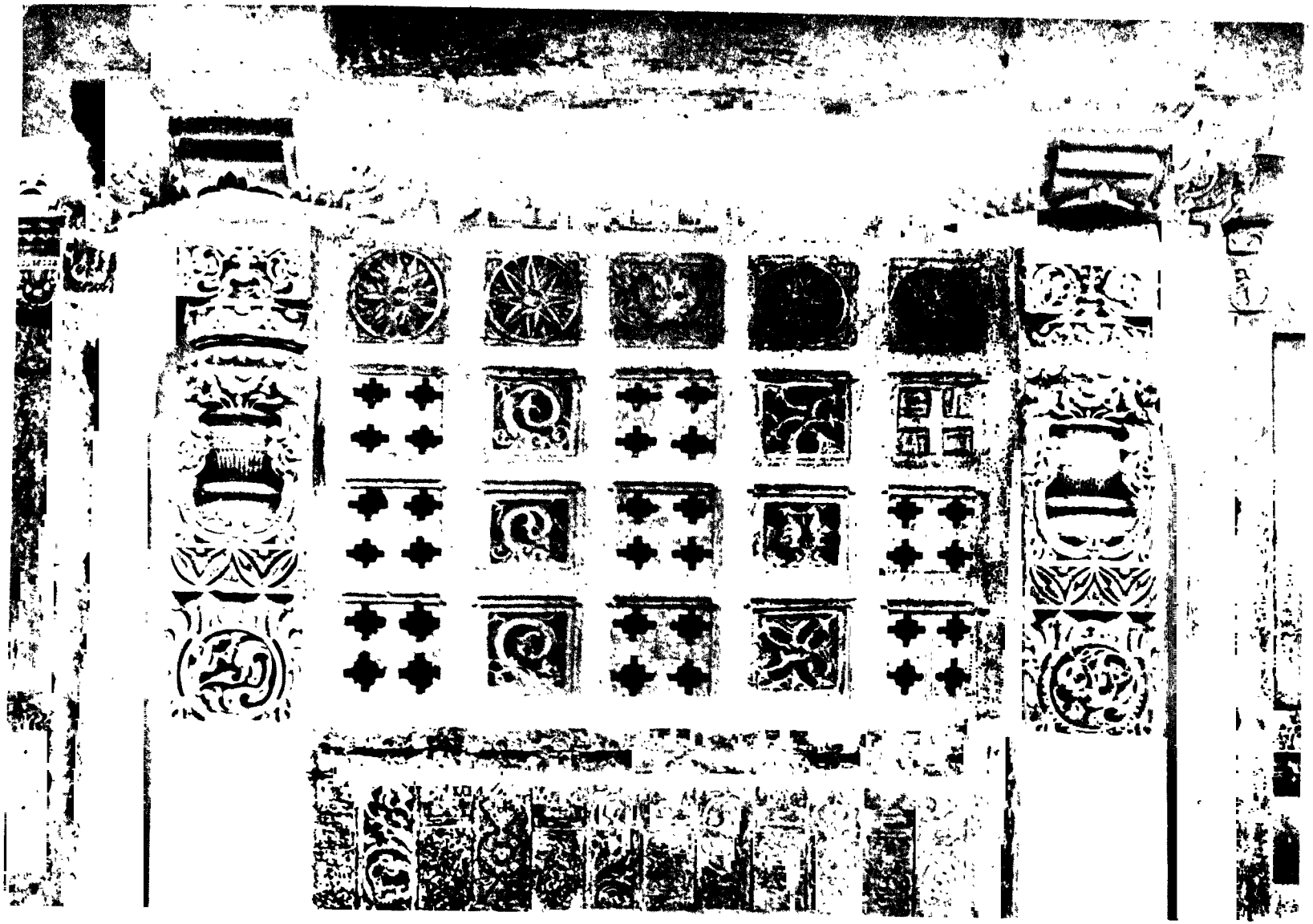
82
Osia. Harihara temple 3, doorframe.
Mahā-Māru style, Maru school,
c. late eighth century.

82



83

83
Roda. Temple IV, doorframe. Mahā-Gurjara style, Ānarta school, *c.* late eighth century.



84
Osia. Mahāvīra temple, *ghaṭapallava* pillars in the balcony. Mahā-Māru style, Maru school. *c.* late eighth century.

85
Roda. Temple I, porch-pillar. Mahā-Gurjara style, Ānarta school, *c.* late eighth century.

86
Maithan. Śiva temple, porch pillar. Mahā-Gurjara style, *c.* early ninth century.

87

88

87
Varman. Jaina temple, pillar in the ambulatory. Mahā-Gurjara style, Arbuda school, *c.* late ninth century.

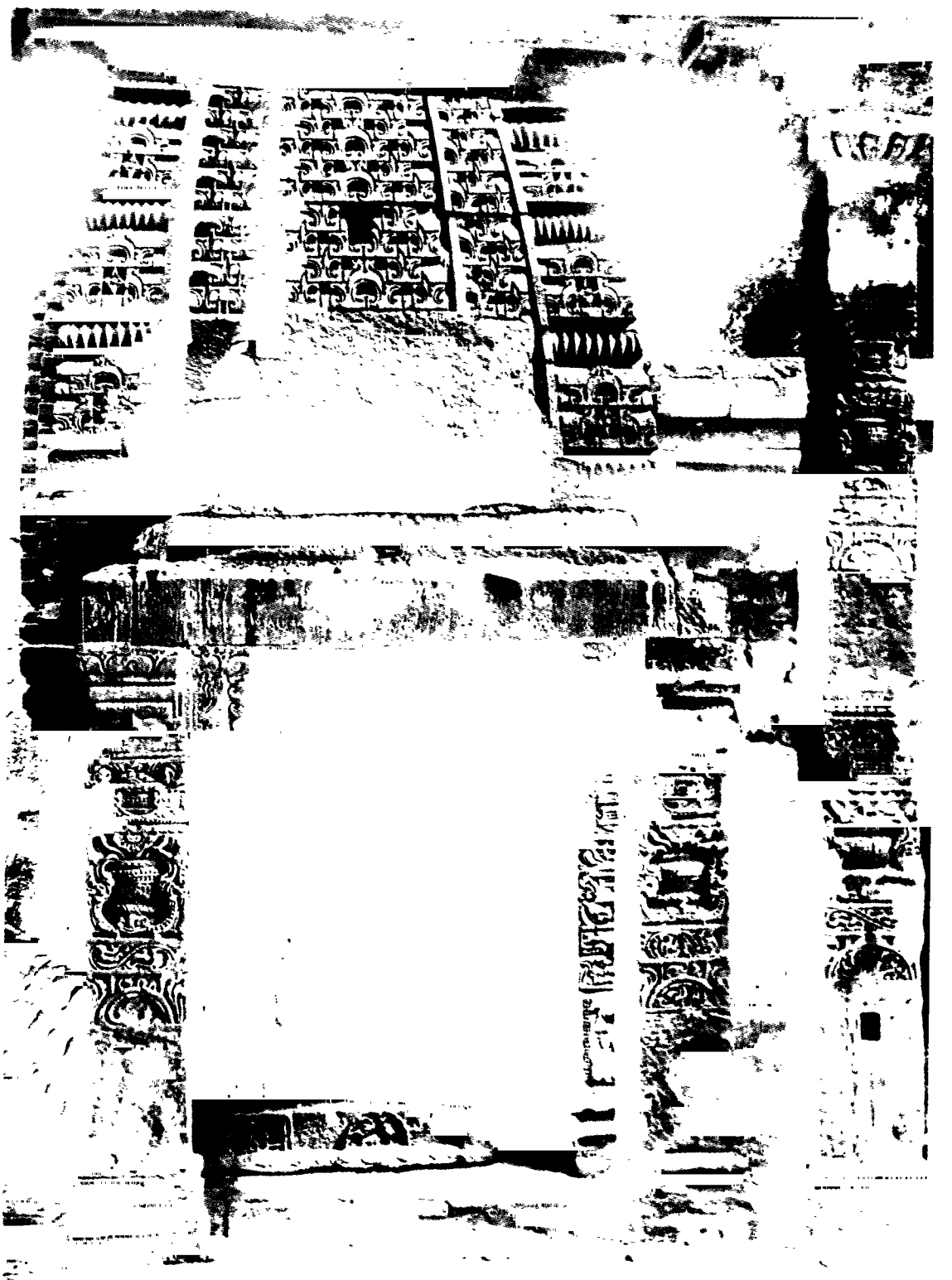
88
Nagada. Sāsu temple, wall-pilaster. Mahā-Gurjara style, *c.* late tenth century.

89
Kekind. *Ghaṭapallava* pillar in the *rangamaṇḍapa*. Mahā-Māru style, Sapādalakṣa school, *c.* mid-tenth century.

90
Sikar. Harsanātha temple,
ghaṭapallava pillars and ornamented
vedībandha. Mahā-Māru style,
Sapādalakṣa school, A.D. 956.

90

91

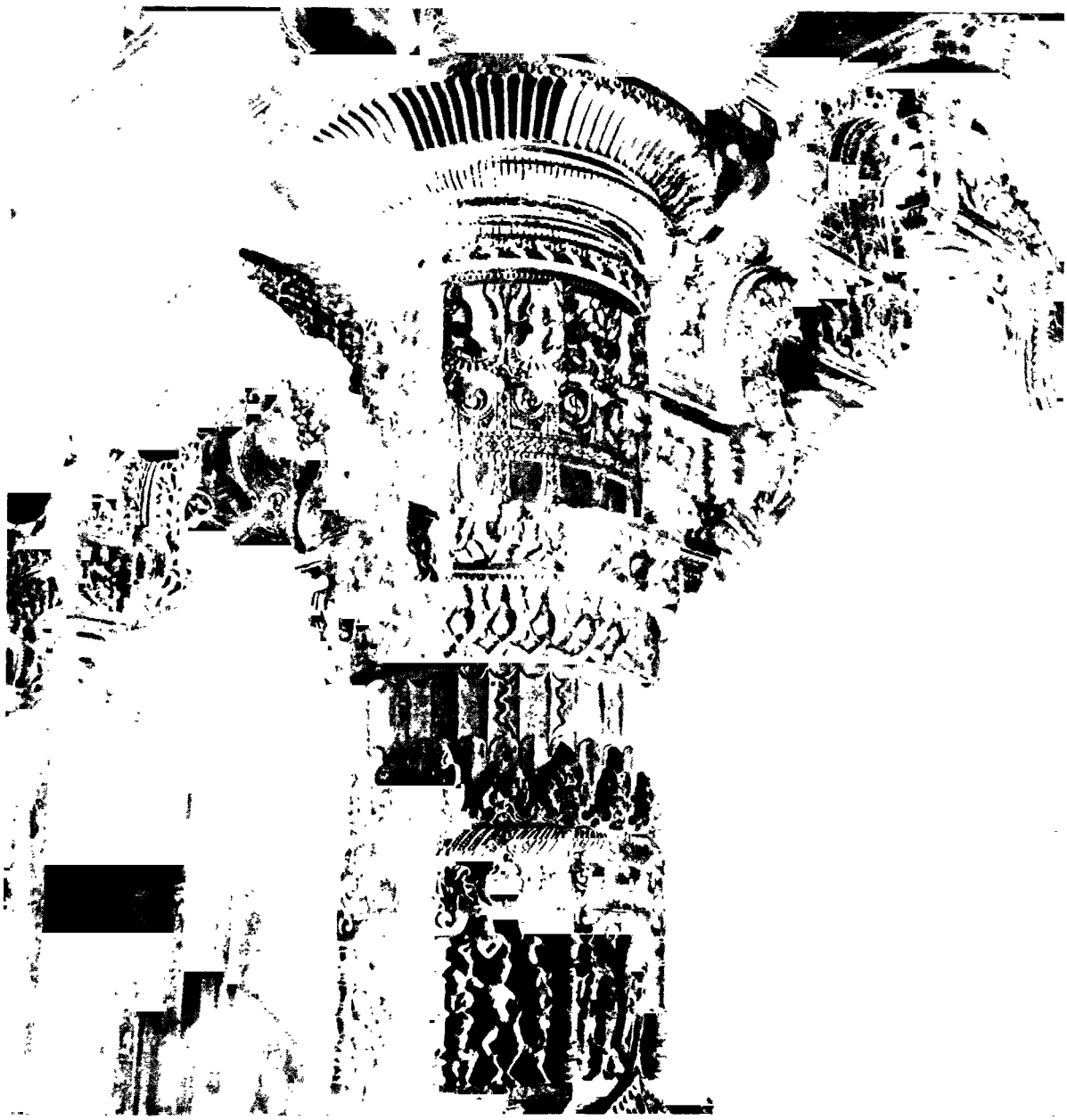


91
Khed. Raṇachoḍajī temple, *devakulikā*-shrine. Style of the transition period, *c.* A.D. 1000.

92
Kiradu. Someśvara temple, *rangamaṇḍapa*, *ghaṭapallava* pillars. Māru-Gurjara style, *c.* A.D. 1020.

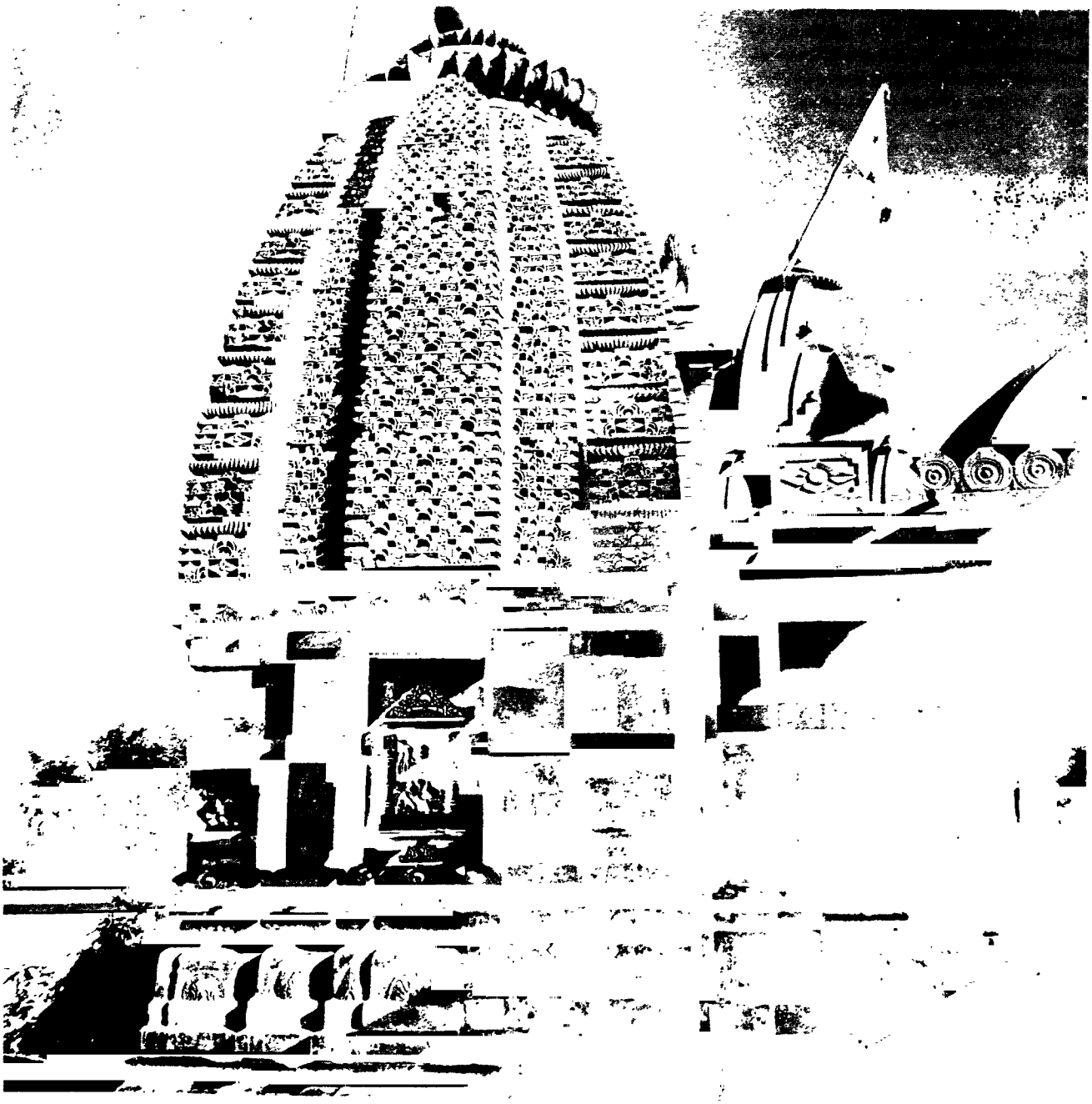
93
Nagada. Sās temple, *rangamaṇḍapa*, pillar detail. Mahā-Gurjara style, Medapāṭa school, *c.* late tenth century.

93



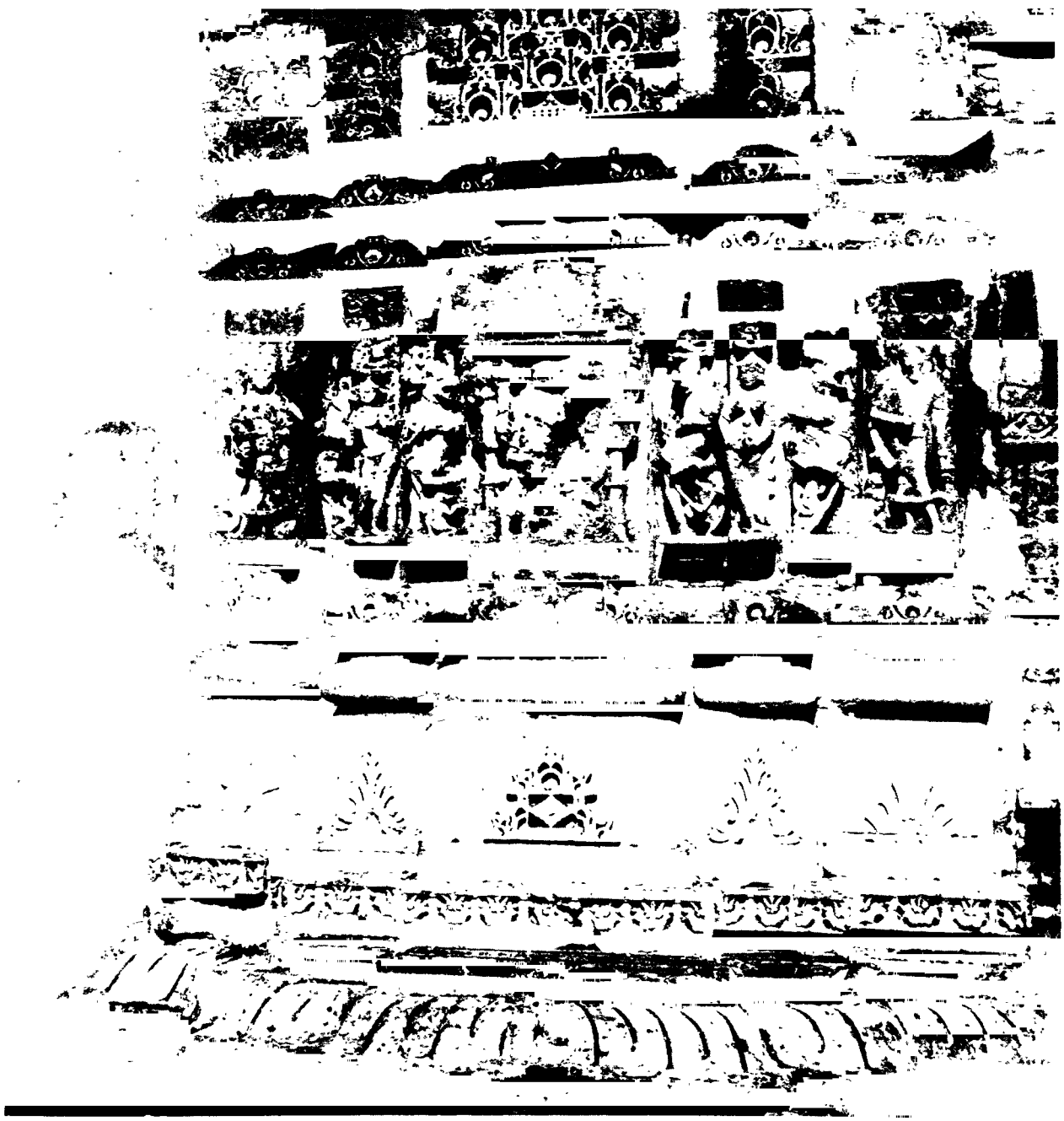
94
Padan. Mūleśvara temple. Style of the transition period, *c.* A.D. 1000.

94



95

95
Ainthor. Viṣṇu temple, wall detail.
Style of the transition period,
c. A.D. 1000.



96

97

96
Sukharia. Temple compound.

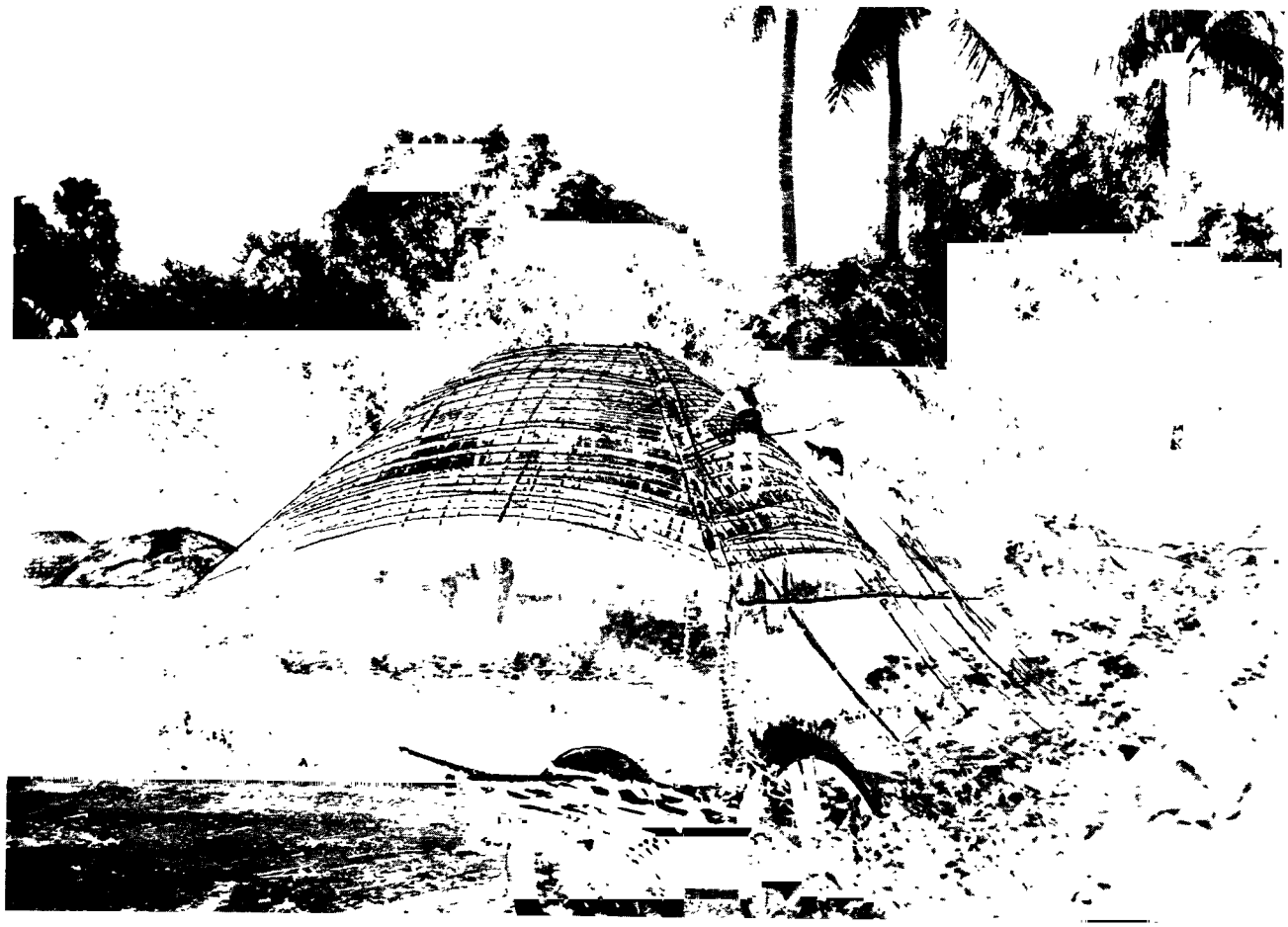
97
Guptipara. Procession car.

98
Chandrakona. Market place.

99
Shahagunj. Village temples.

98

99



100

101

100
Burdwan. House construction.

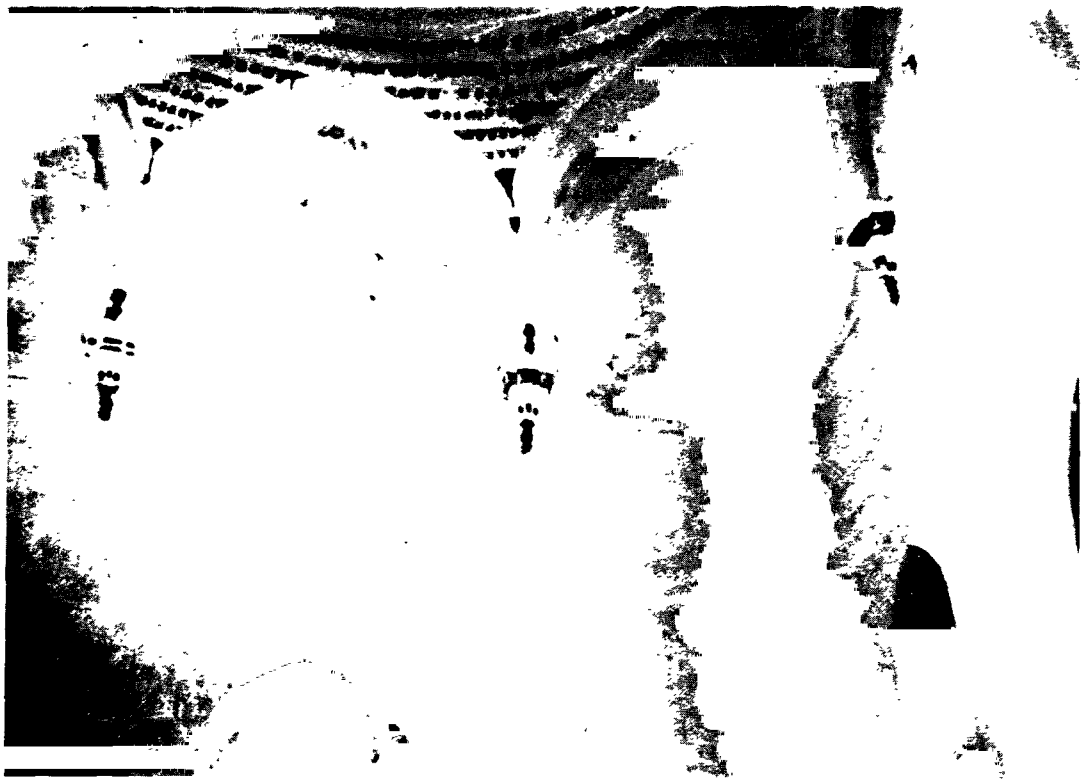
101
Bansberia. Ananta Vāsudeva temple.

102
Burdwan. Kanchannagore.

103
Bansberia. Ananta Vāsudeva temple.

102

103



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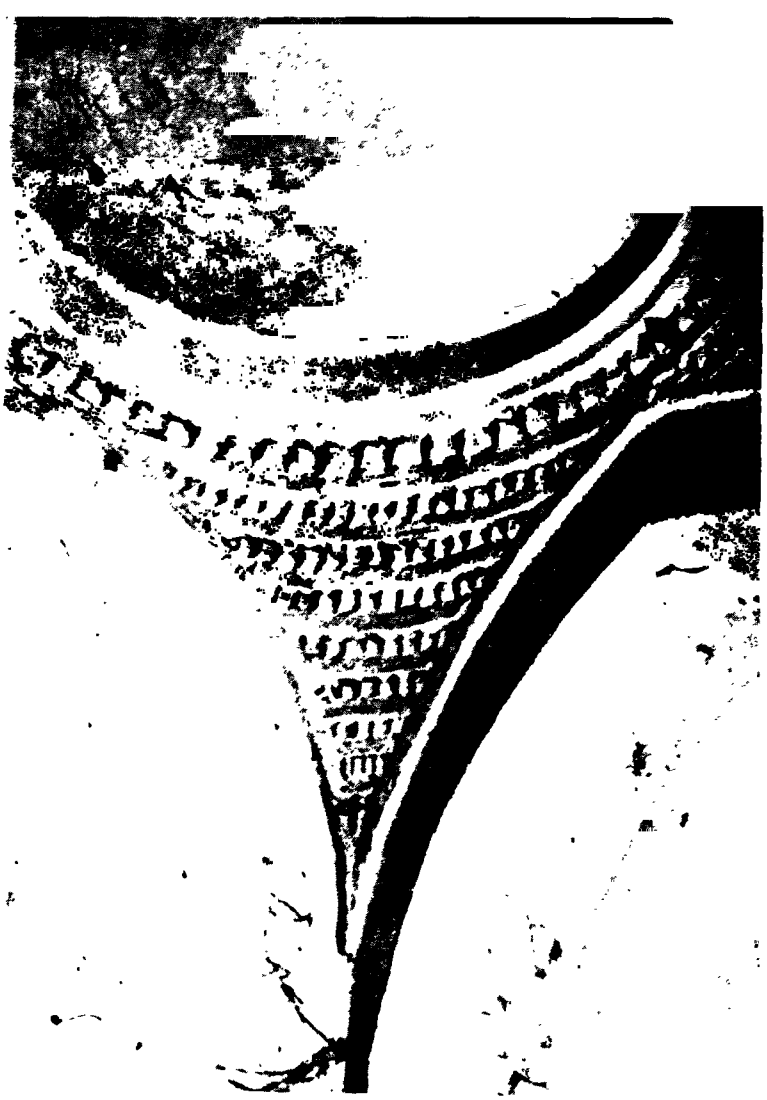


105

104
Bansberia. Ananta Vāsudeva temple.

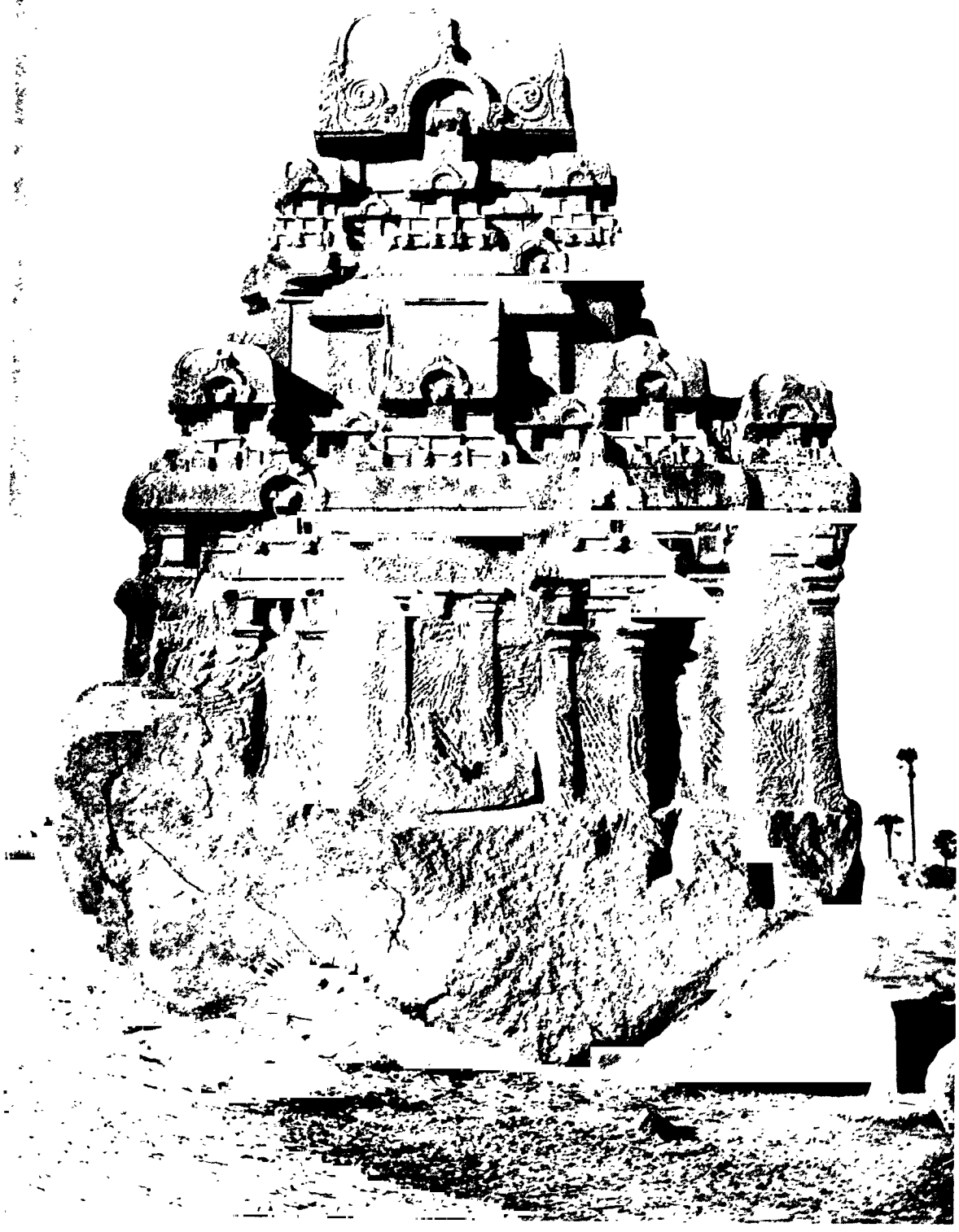
105
Bansberia. Ananta Vāsudeva temple.

106

106
Mahabalipuram. General view showing Nakula-Sahadeva, Arjuna and Draupadī Rathas, elephant, lion and bull, from east.

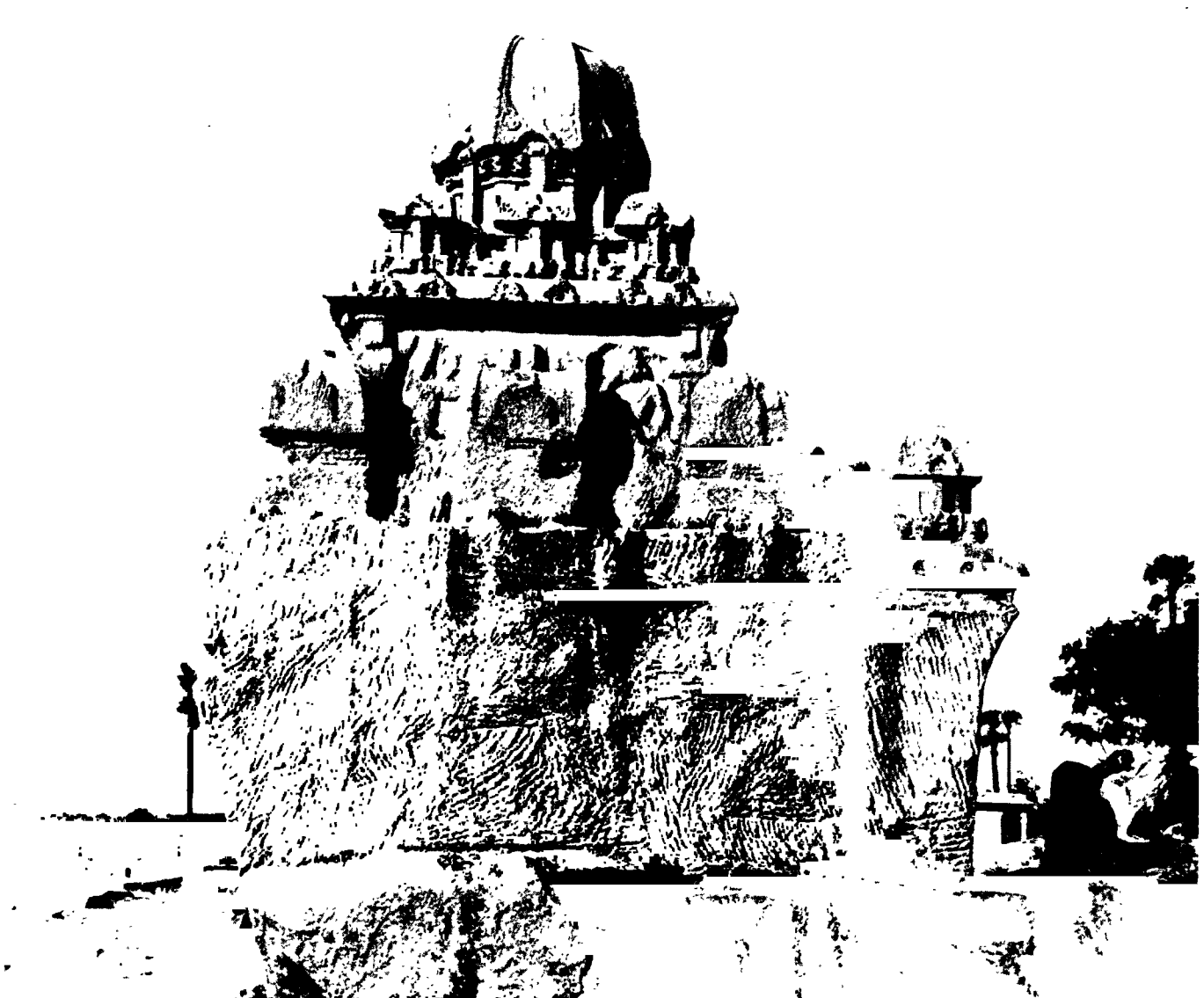
107
Mahabalipuram. Valaiyankuṭṭai
Ratha.

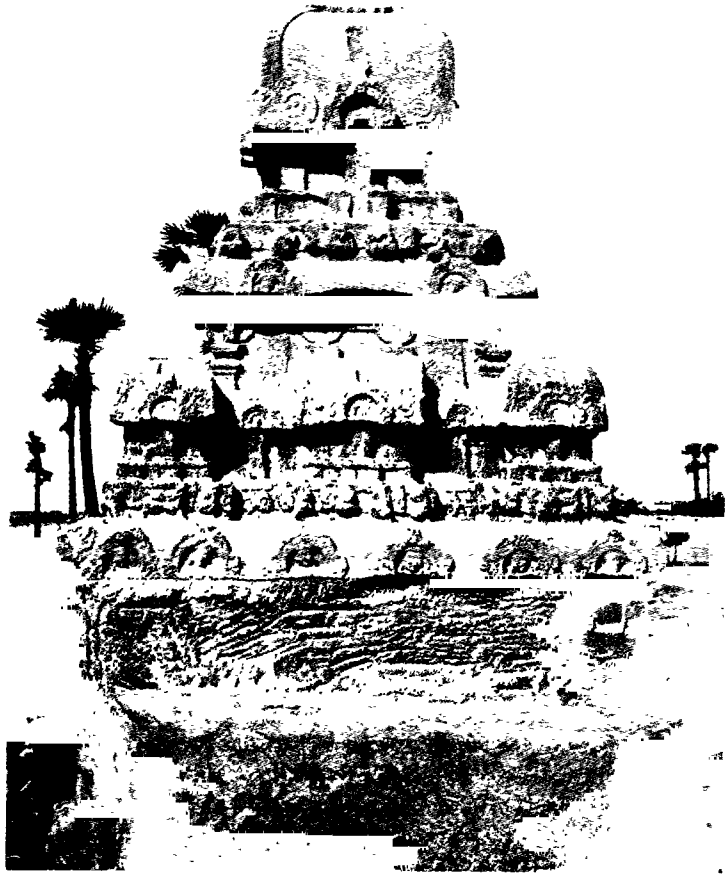
107



108
Mahabalipuram.
Southern Piḍārī
Ratha.

108





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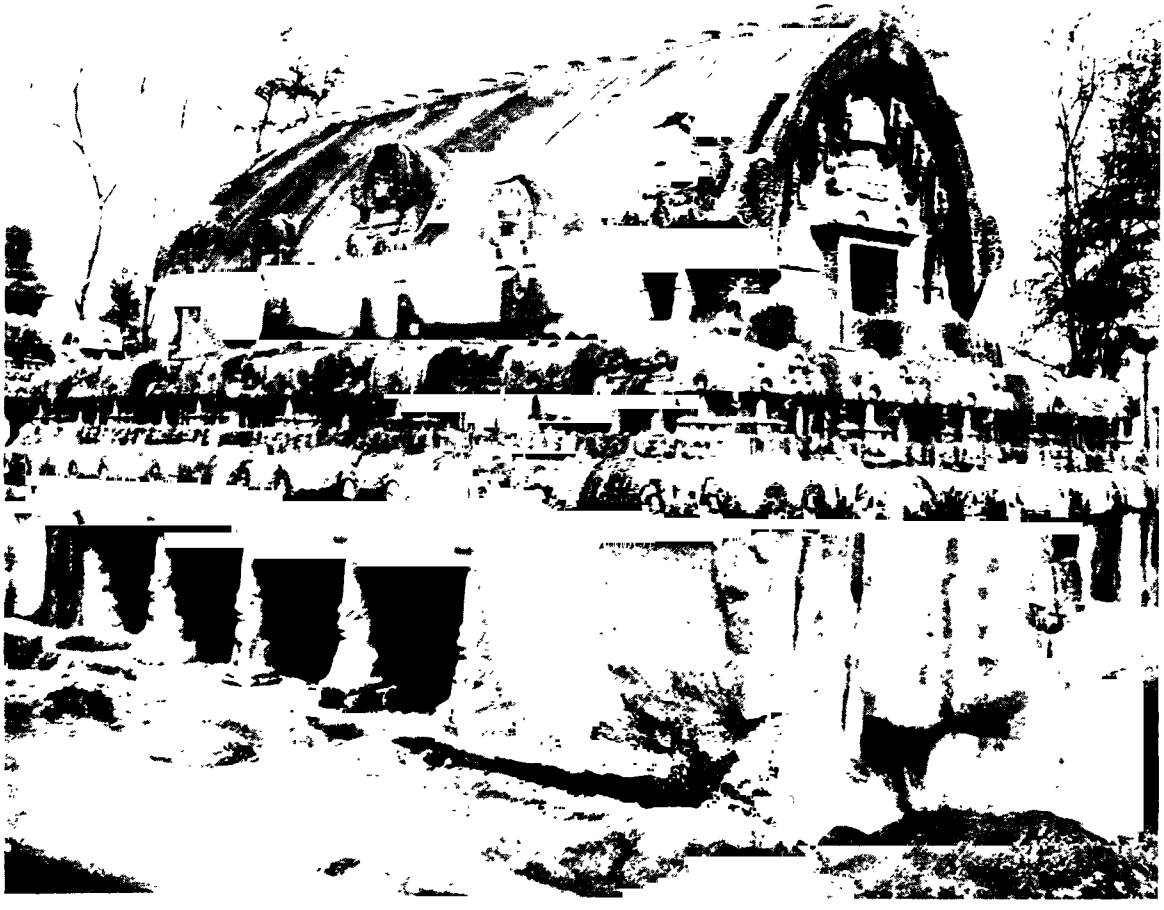


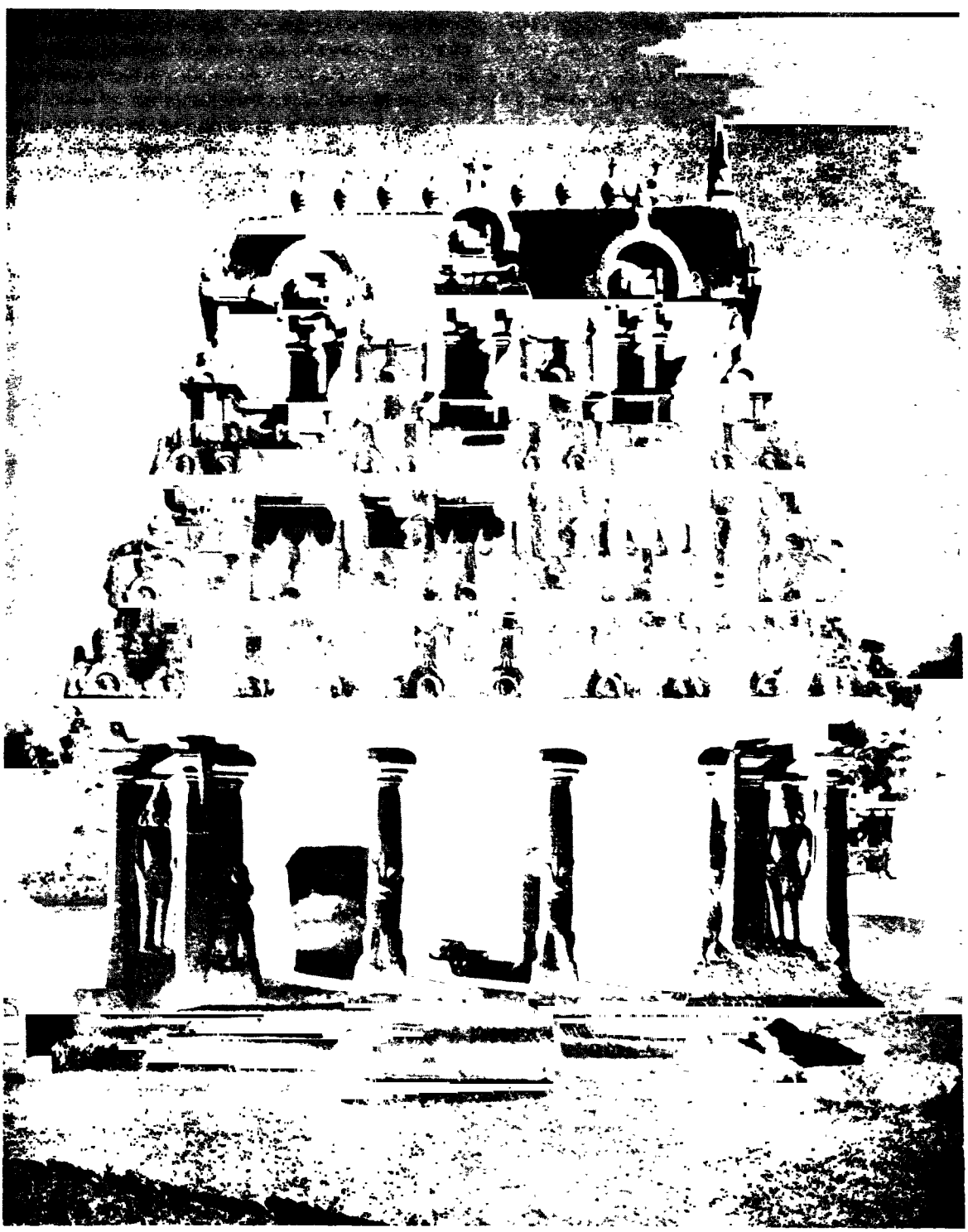
110

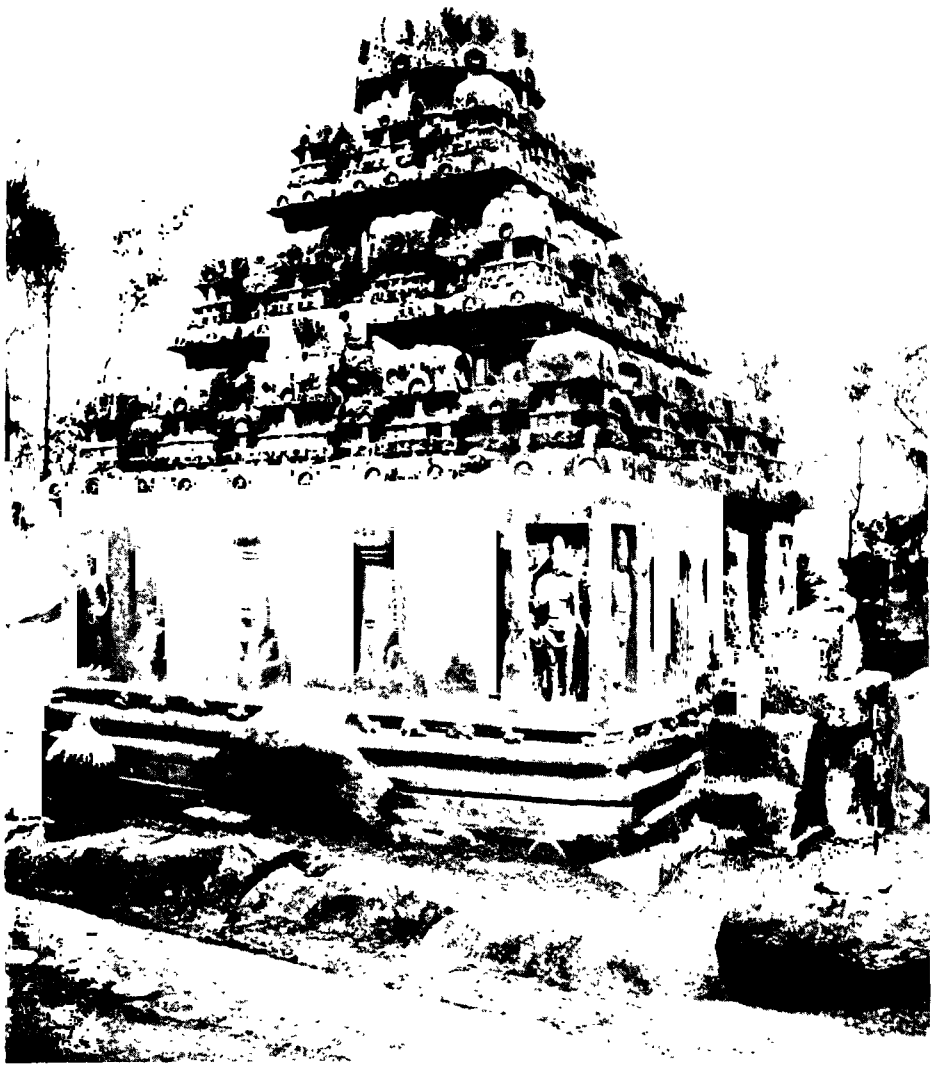
110
Mahabalipuram. Bhīma Ratha.

109
Mahabalipuram. Northern Piḍārī Ratha.

111
Mahabalipuram. Gaṇeśa Ratha.

111





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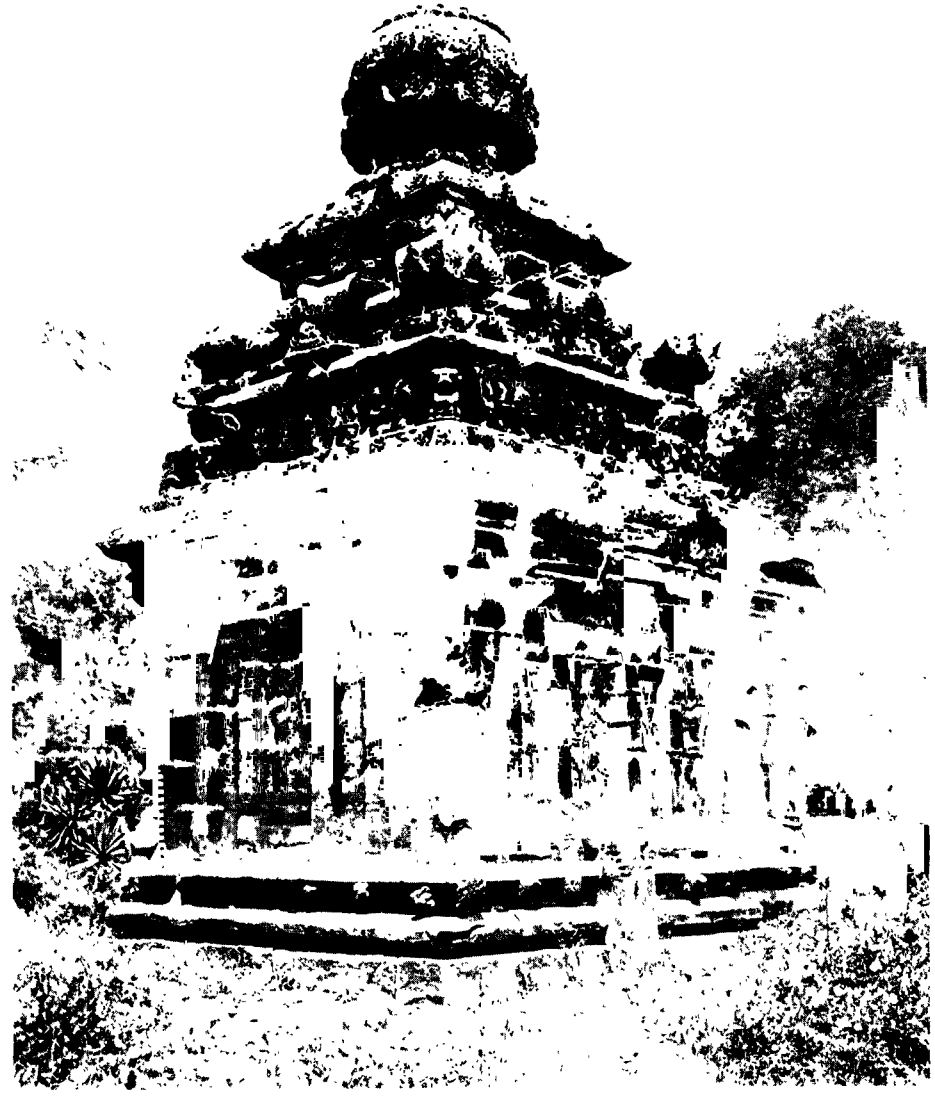
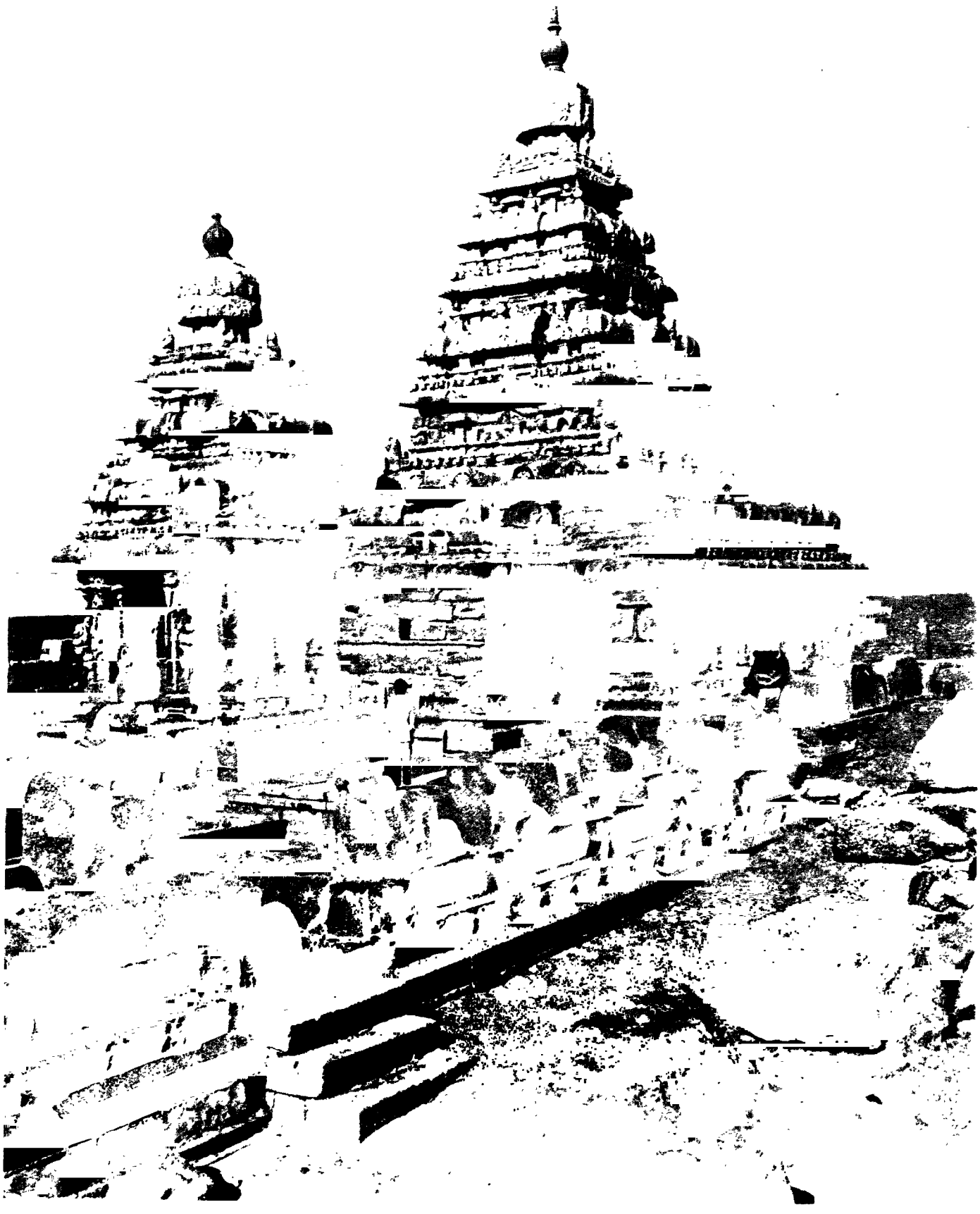


113

112
Mahabalipuram. Dhārmarāja Ratha.

113
Kanchipuram. Pirvātaneśvara temple, from northeast.

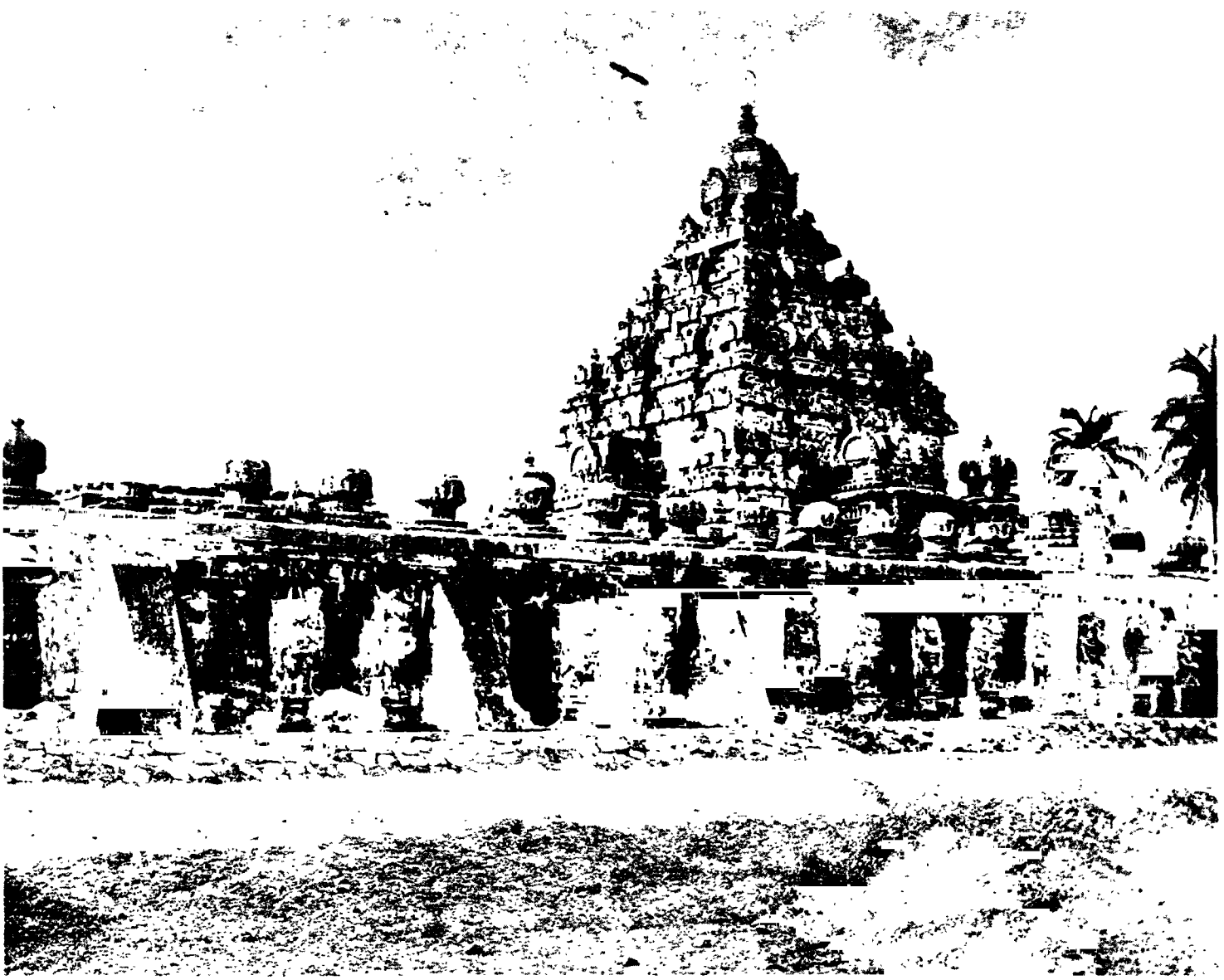
114
Kanchipuram. Airāvateśvara temple, front from west.



115
Mahabalipuram. Shore temple, from northwest.

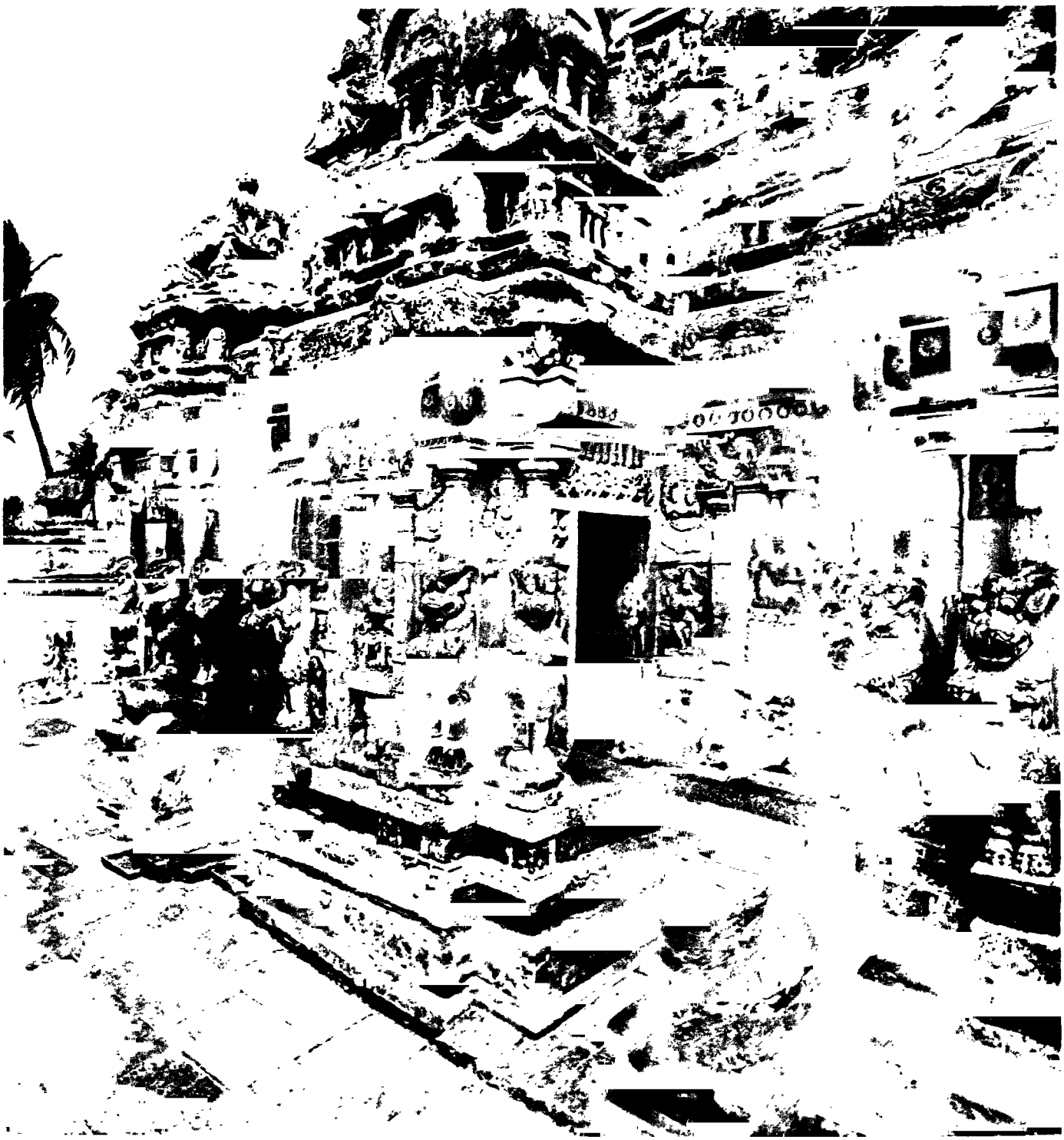
116
Kanchipuram. Kailāsanātha temple.

116



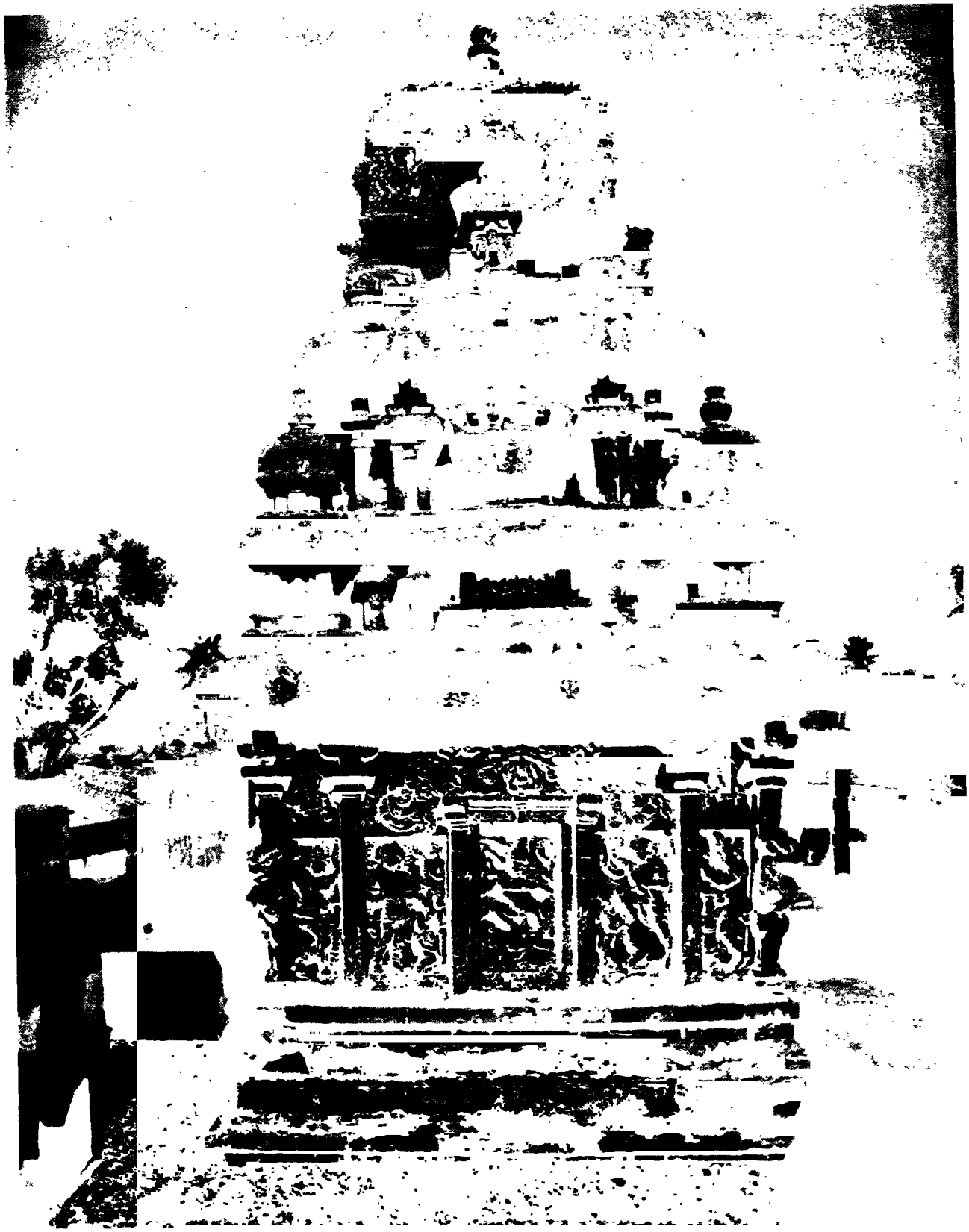
117

117
Kanchipuram. Kailāsanātha temple, south wall.



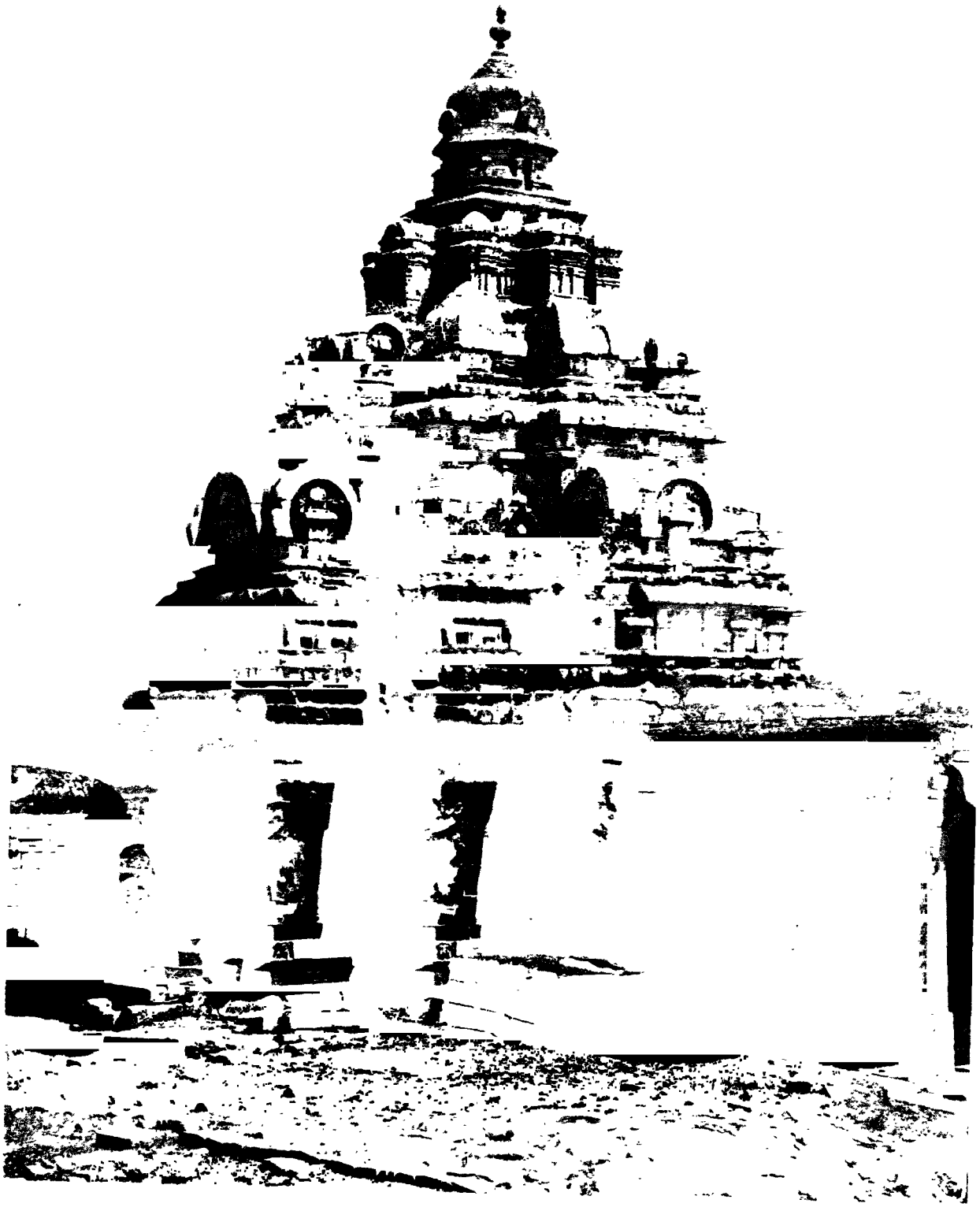
118

118
Kanchipuram. Iravātaneśvara temple.



119
Panamalai. Tālagirīsvara temple, from southeast.

119



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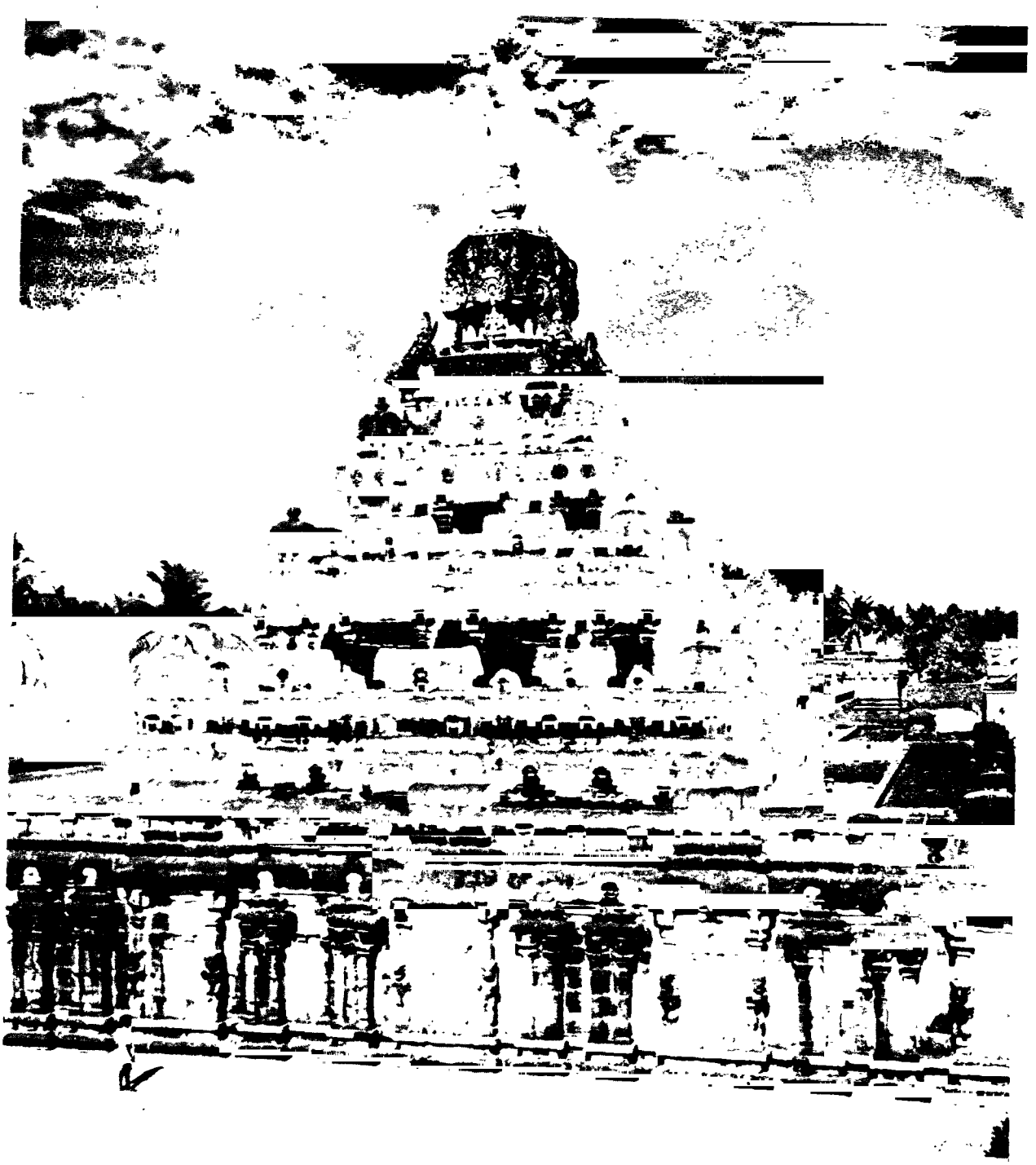
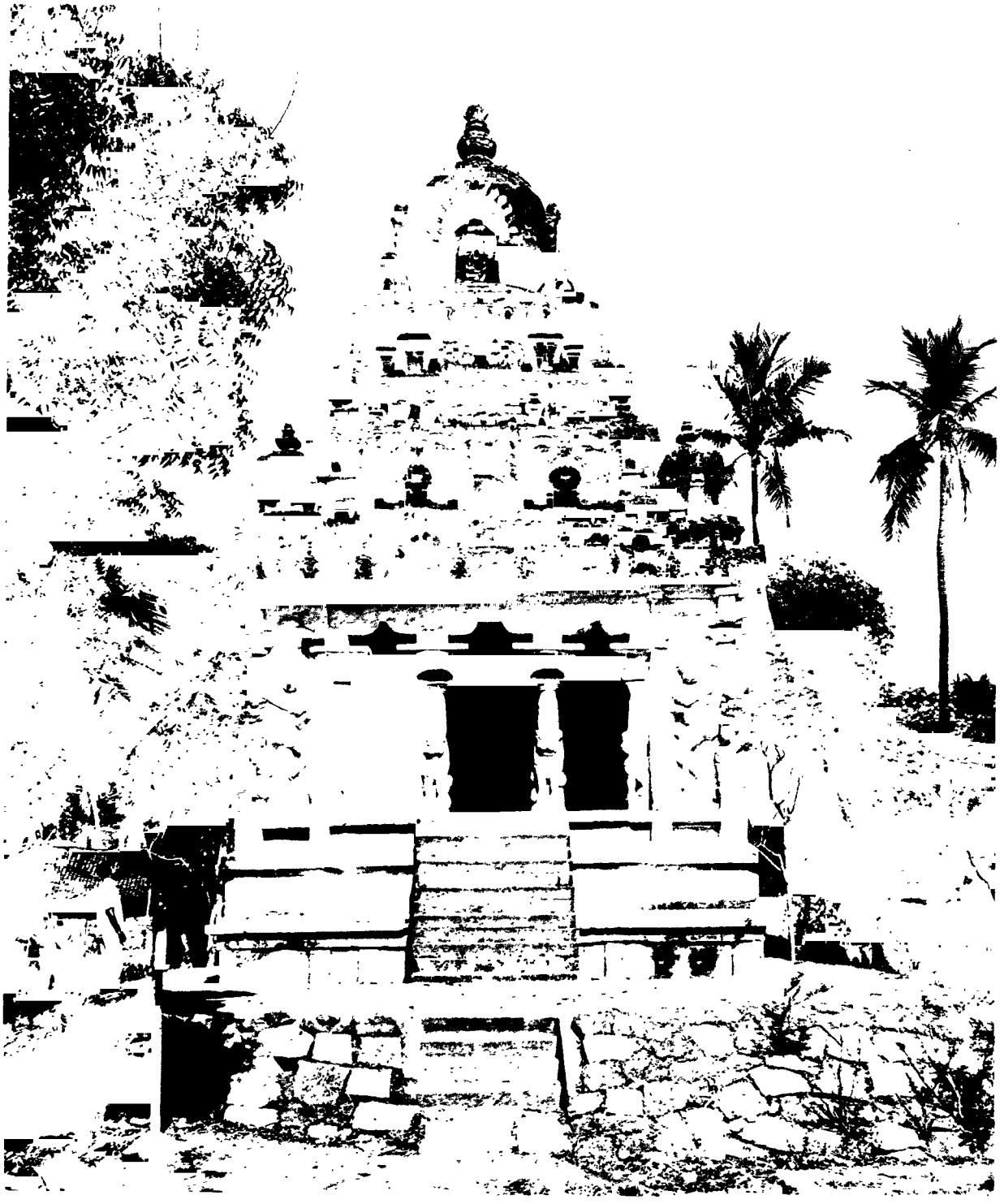


120
Kanchipuram. Vaikuṇṭhaperumāḷ temple, from east.

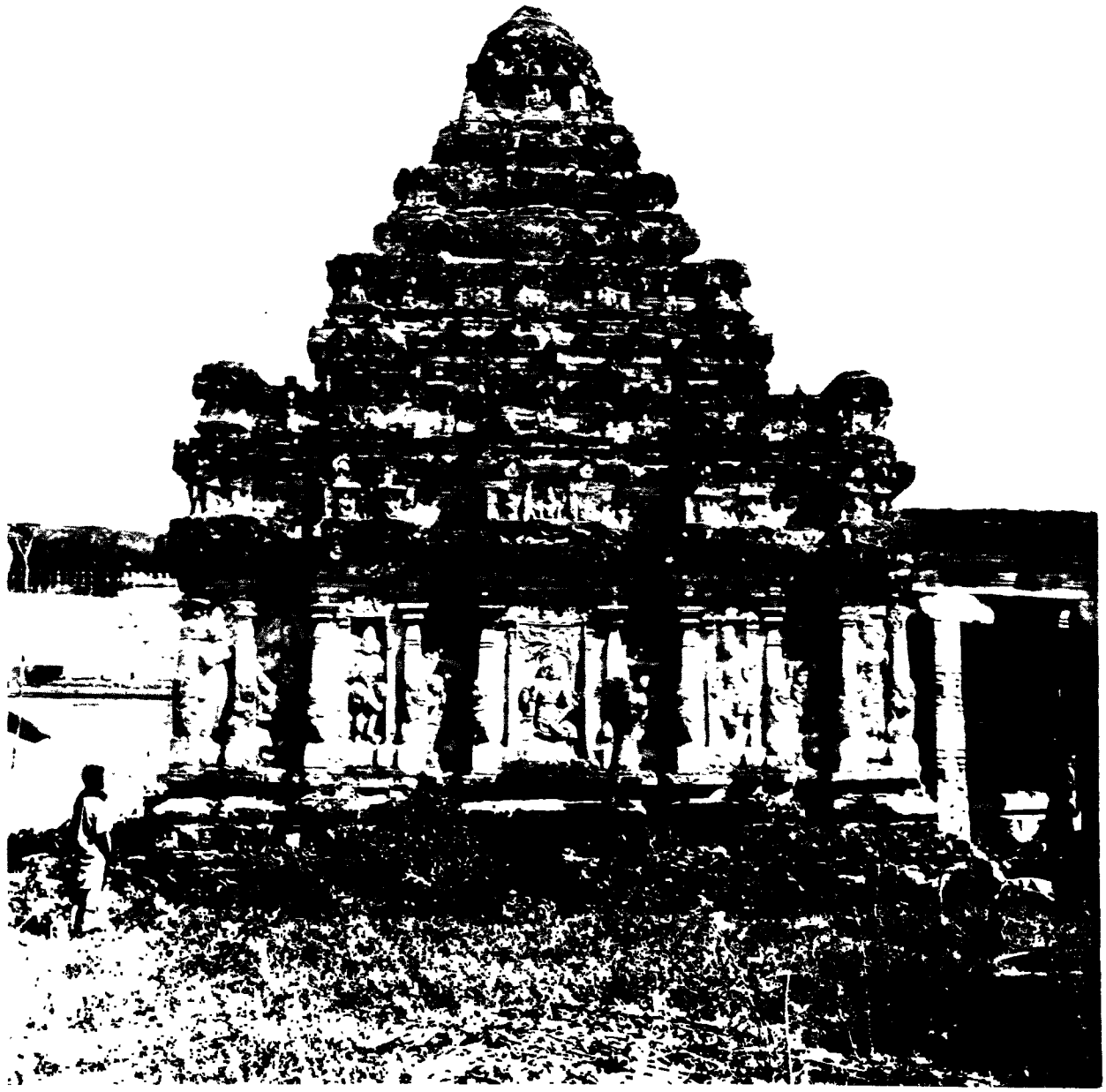
121
Kanchipuram. Mukteśvara temple,
from east.

121

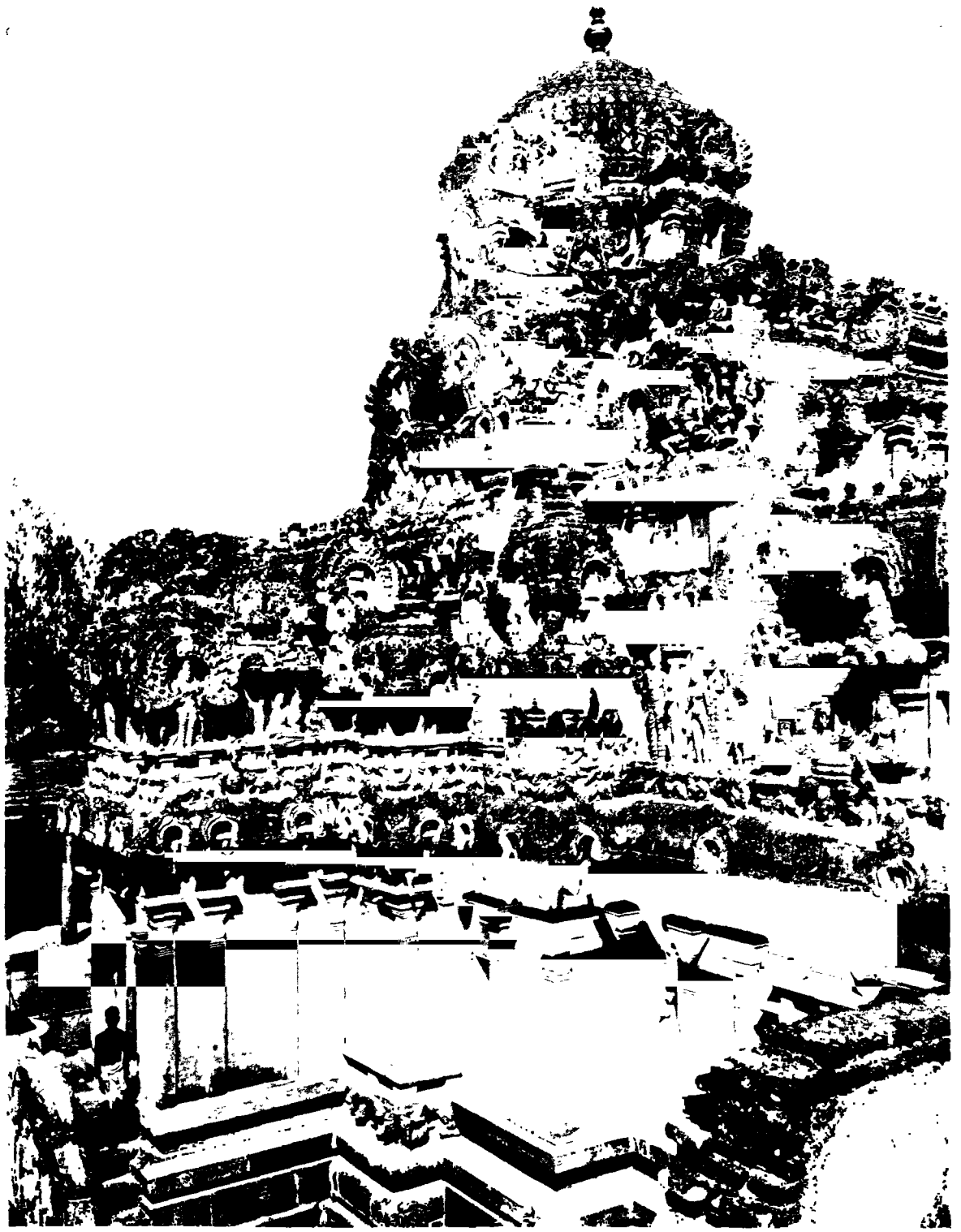


122

122
Tiruppattur. Kailāsanātha temple, from southwest.

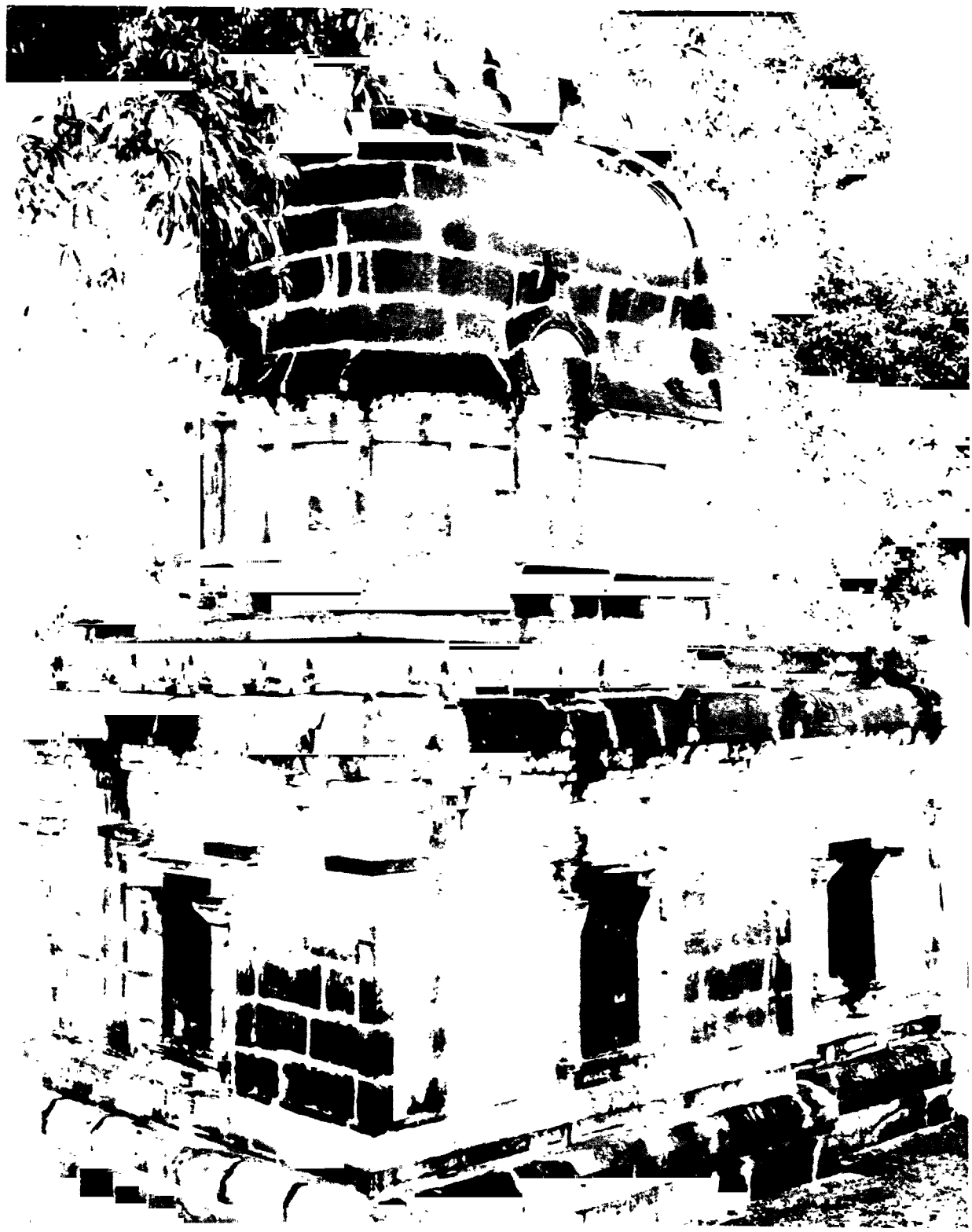


123
Uttiramerur. Sundaravaradaperumāḷ temple, from south-east.



124
Tiruttani. Vīraṭṭāneśvara temple.

124



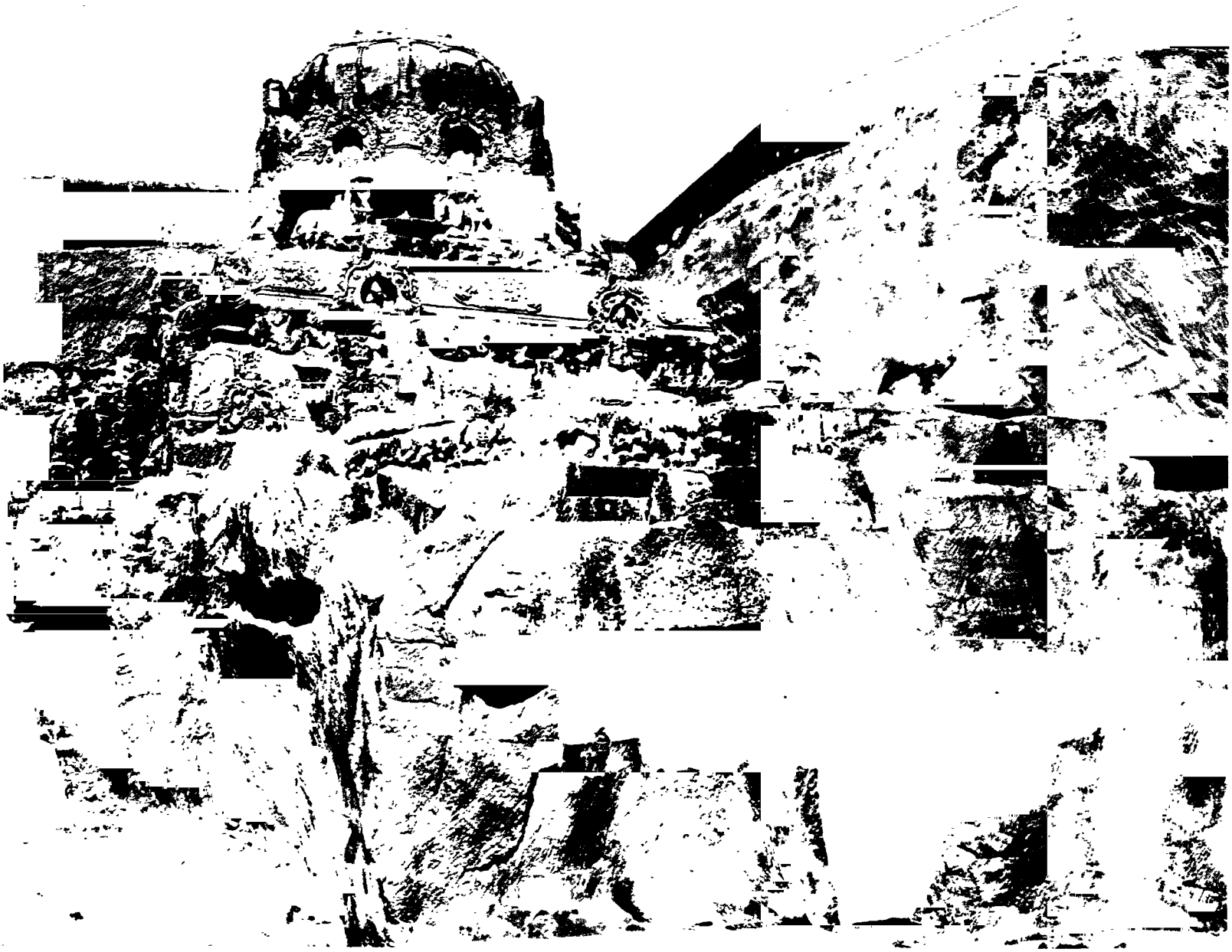
125
Uttiramerur. Kailāsanātha temple, from southeast.

126
Kuram. Remains of early Pallava apsidal Śiva temple at the entrance of the village.

126

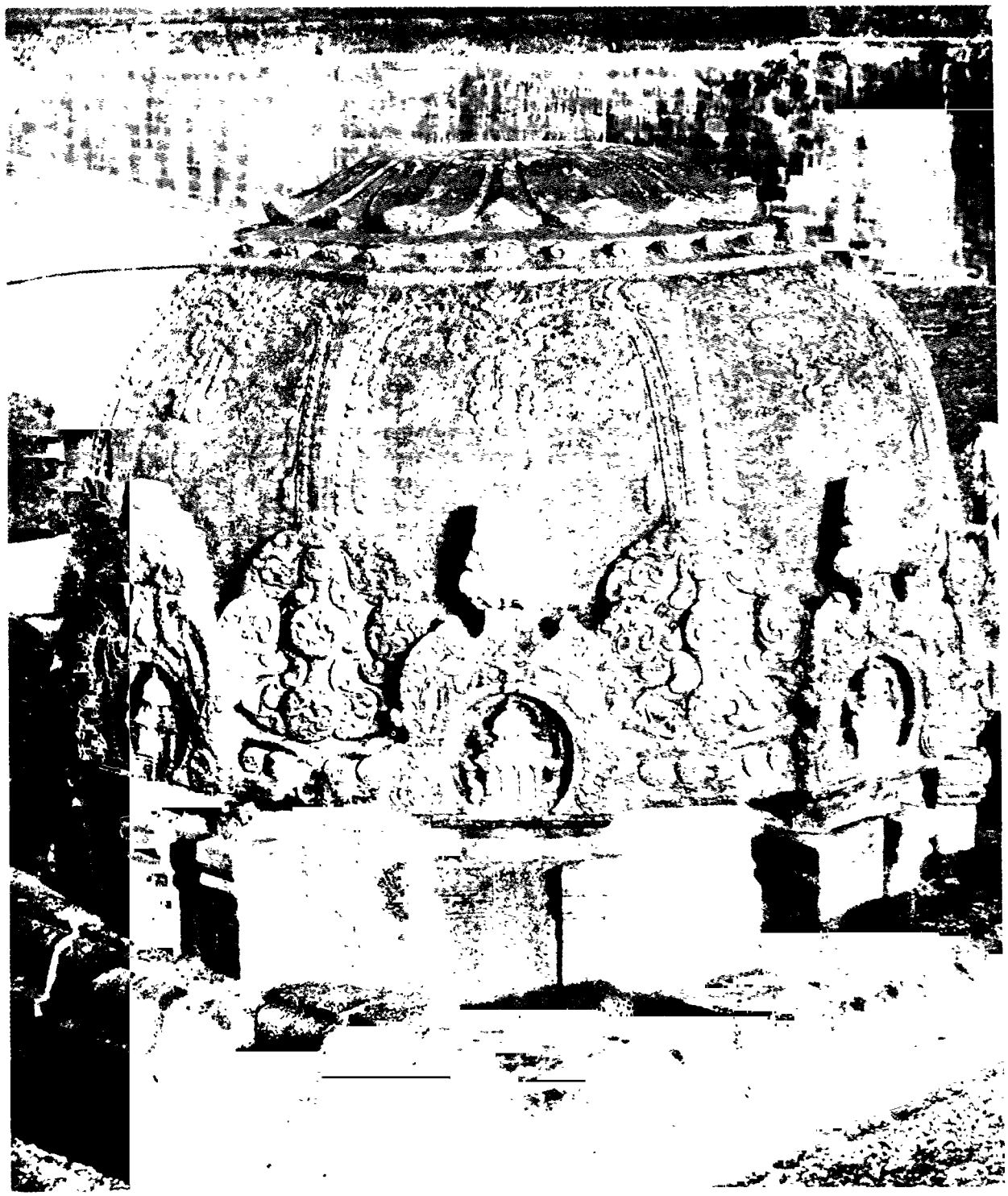
127
Kalugumalai. Vettuvankoil temple.

127

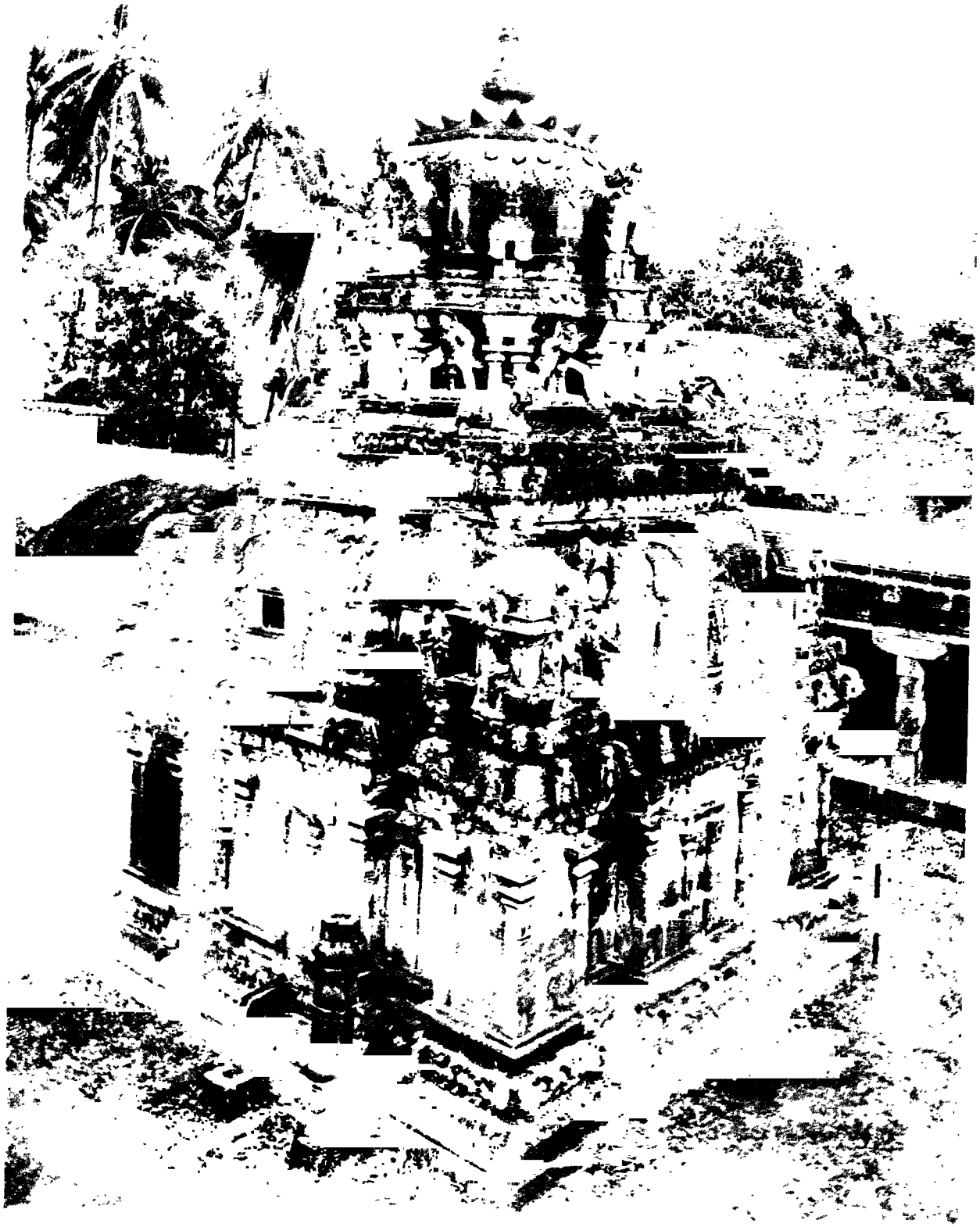


128
Tirukkurungudi. Lakṣmī-Nārāyaṇa temple.

128

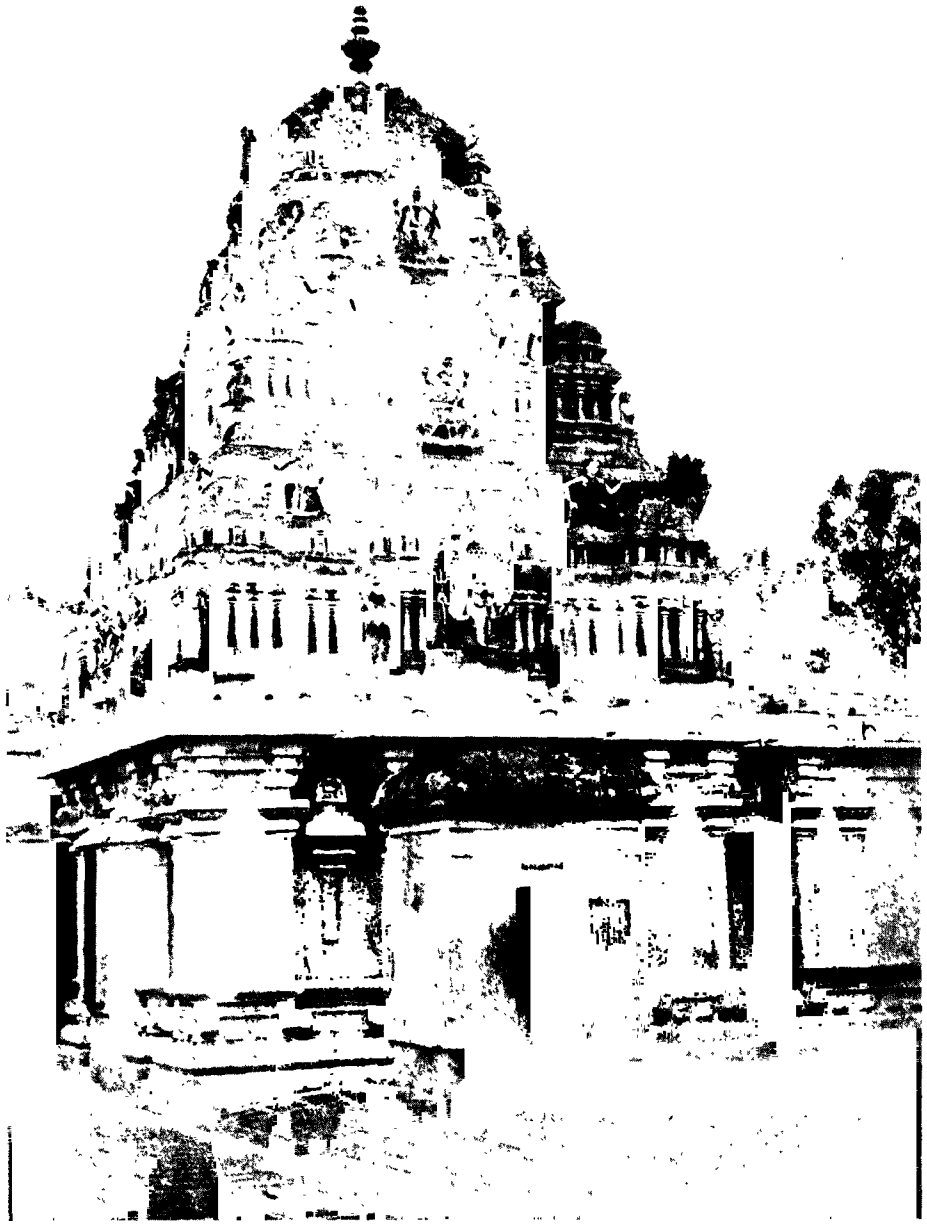


129
Tiruvalisvaram. Vālīsvara temple.



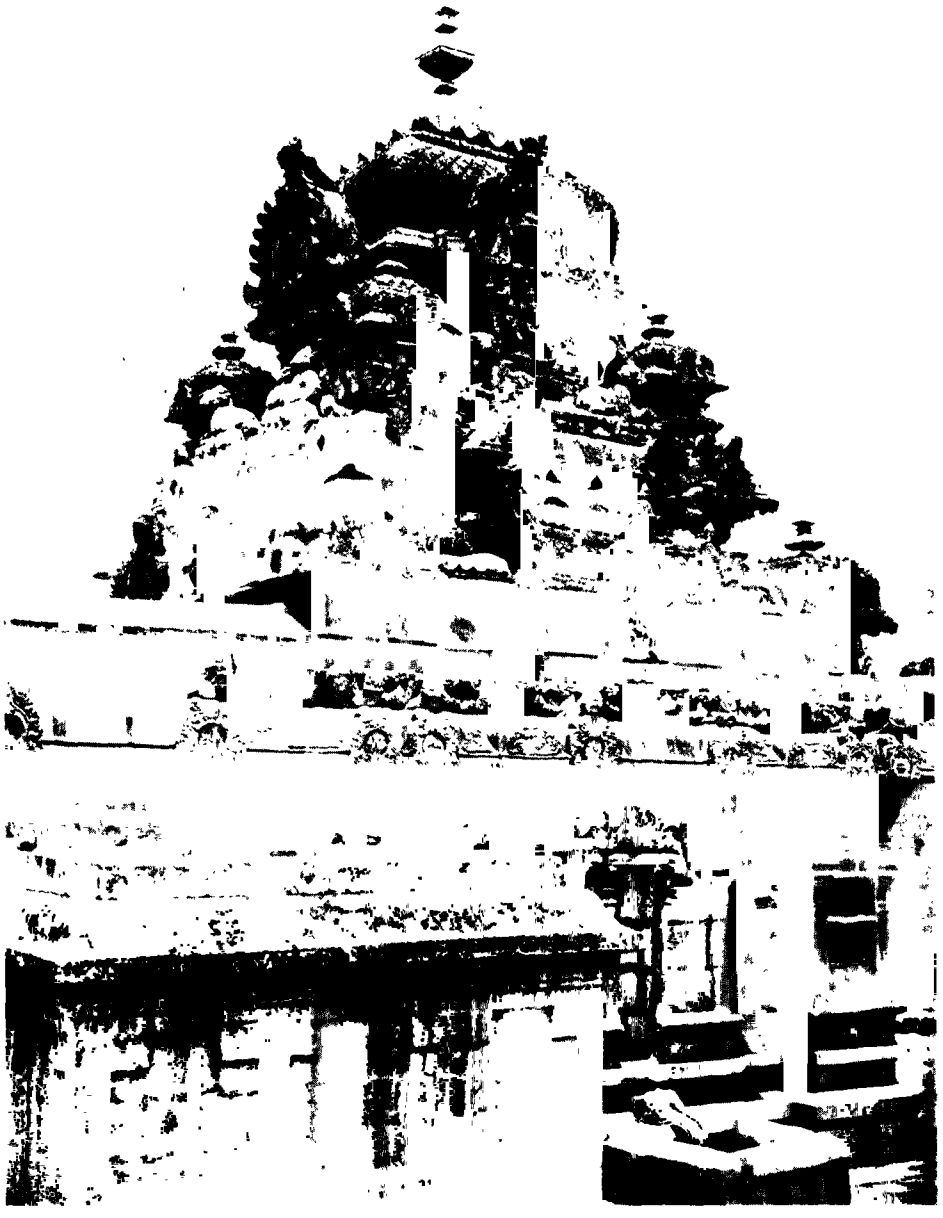
130

130
Kodumbalur, Aivarkoil (Aintali) temple.



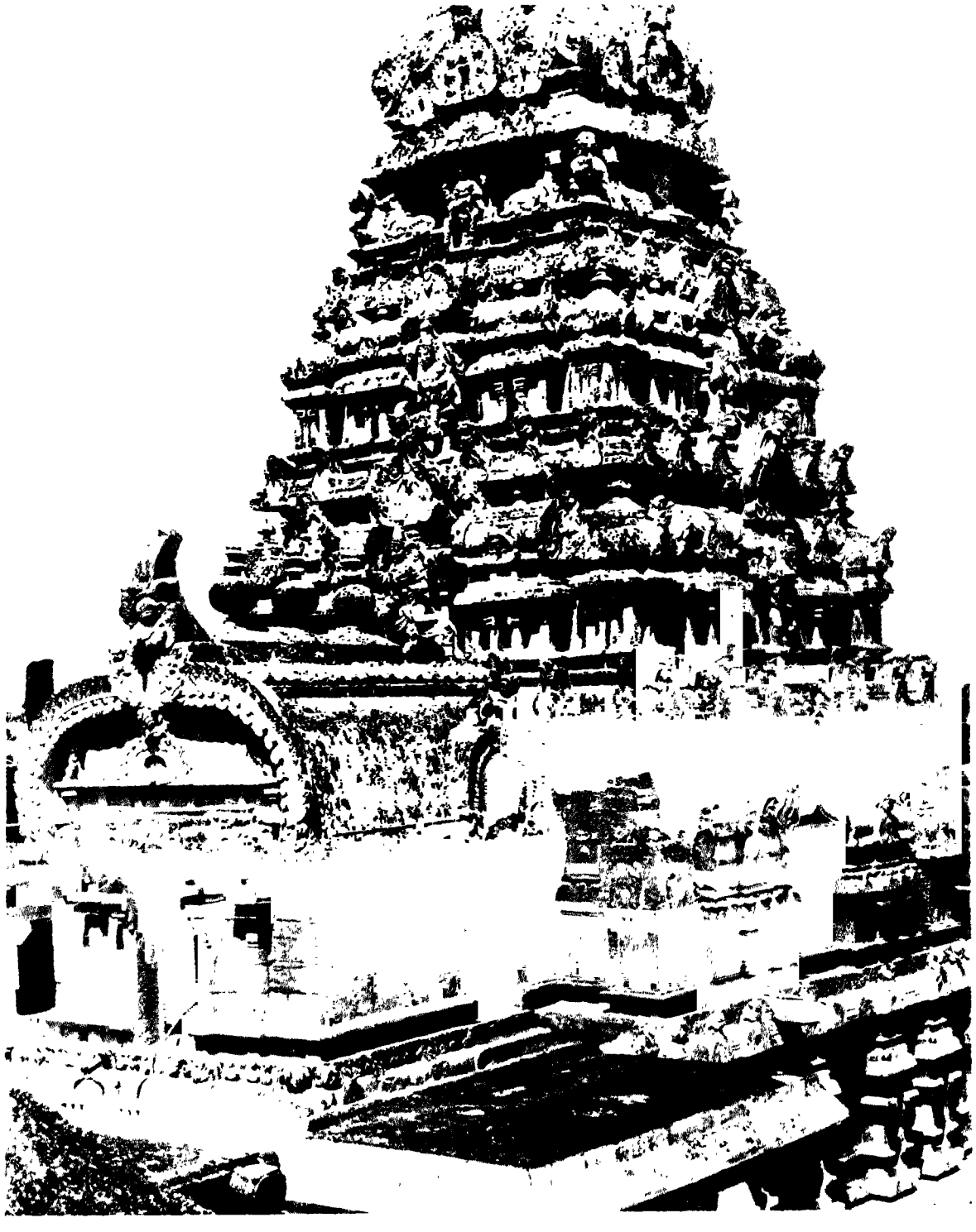
131

131
Tiruppattur. Talinātha temple.

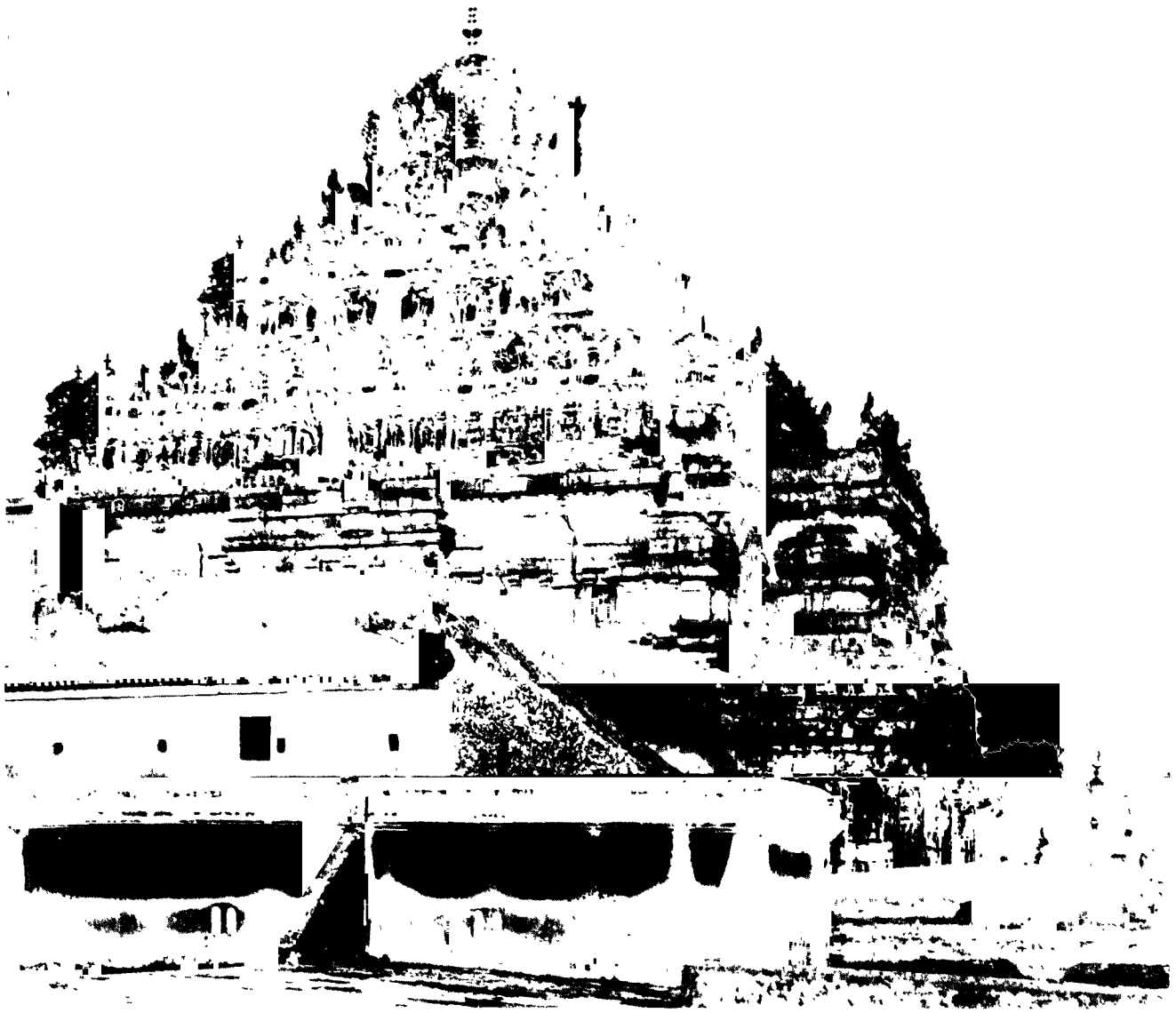


132

132
Koilpatti. Puvananāthasvāmī temple.

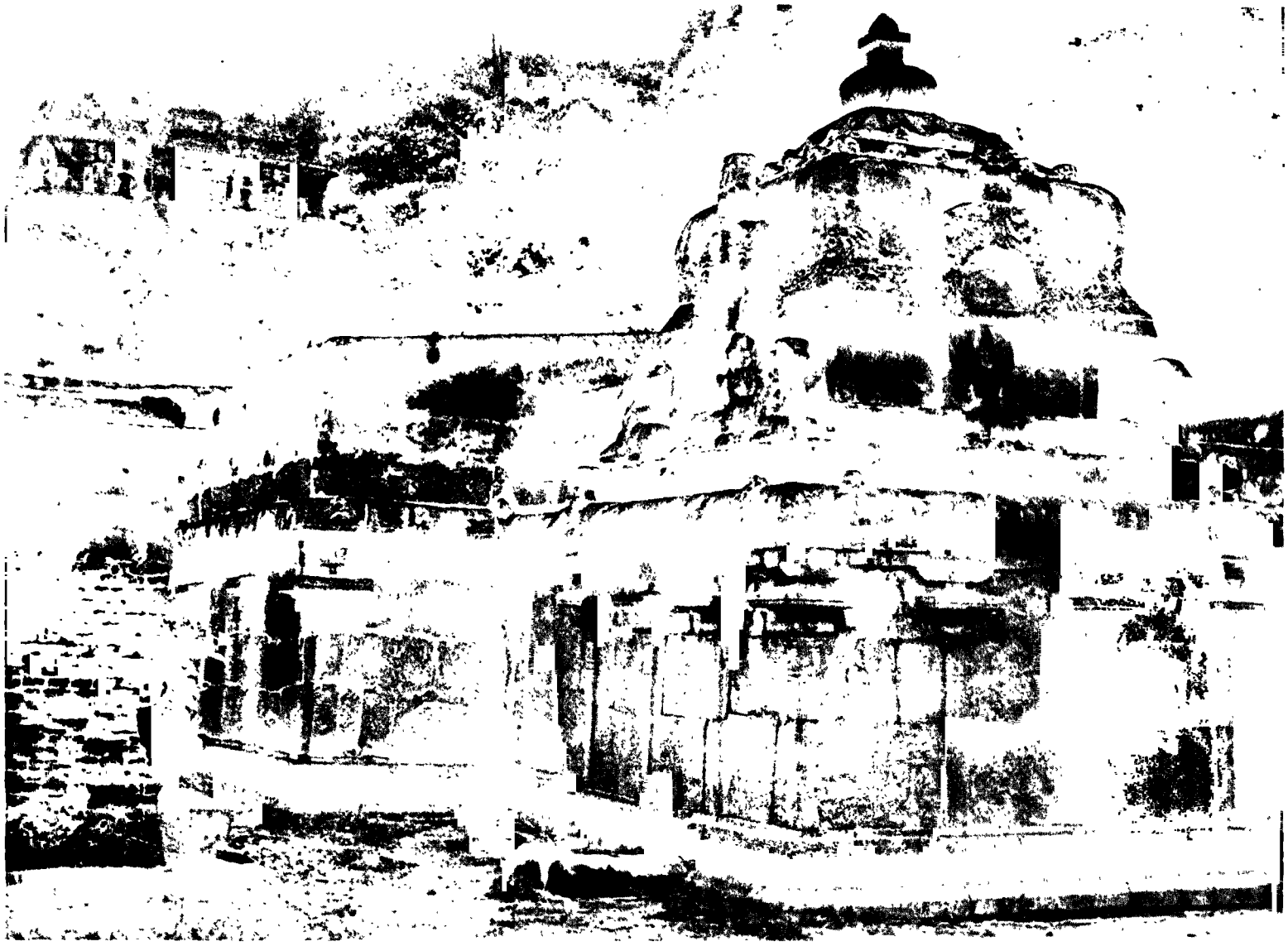


133
Uttarakosamangai. Umā-Maheśvara temple, near Naṭarāja Sabhā.



134
Tirukkostiyur. Saumyanārāyana temple.

135
Kaliyapatti. Siva temple.

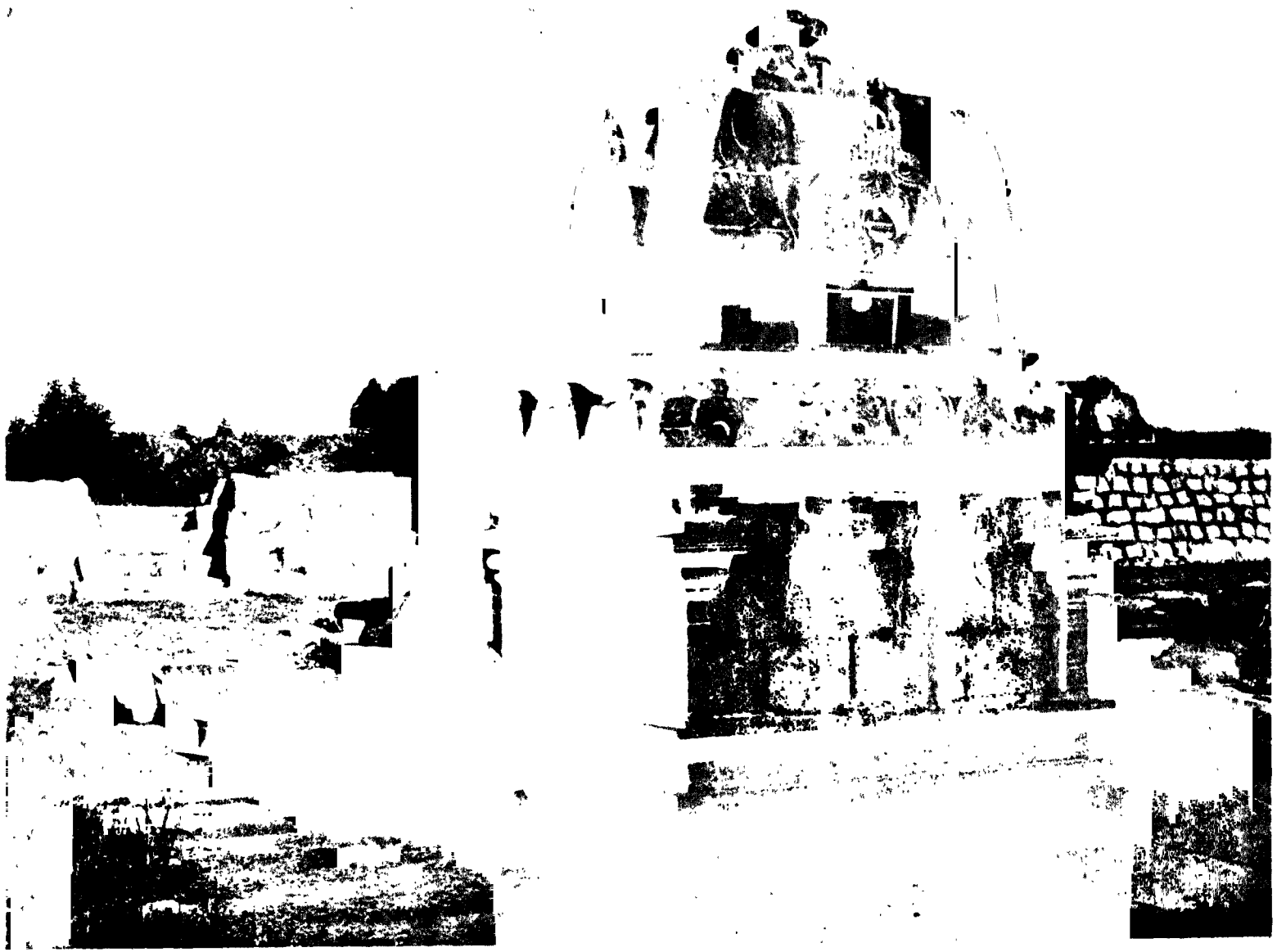


136

136
Visalur. Mārgapurīśvara temple.

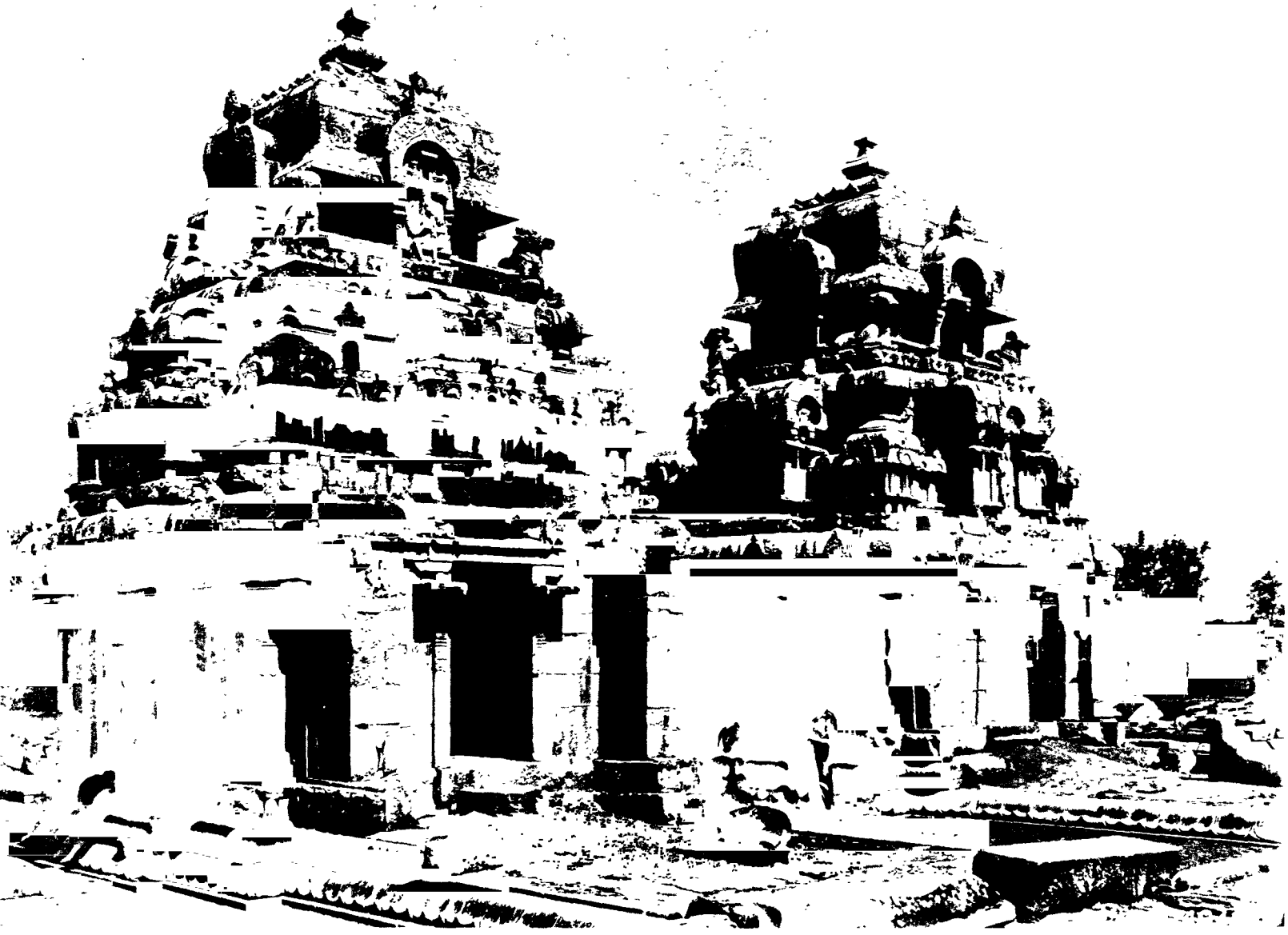
137

137
Enadi. Śiva (Tirumaṅgalicuramudaivar) temple.

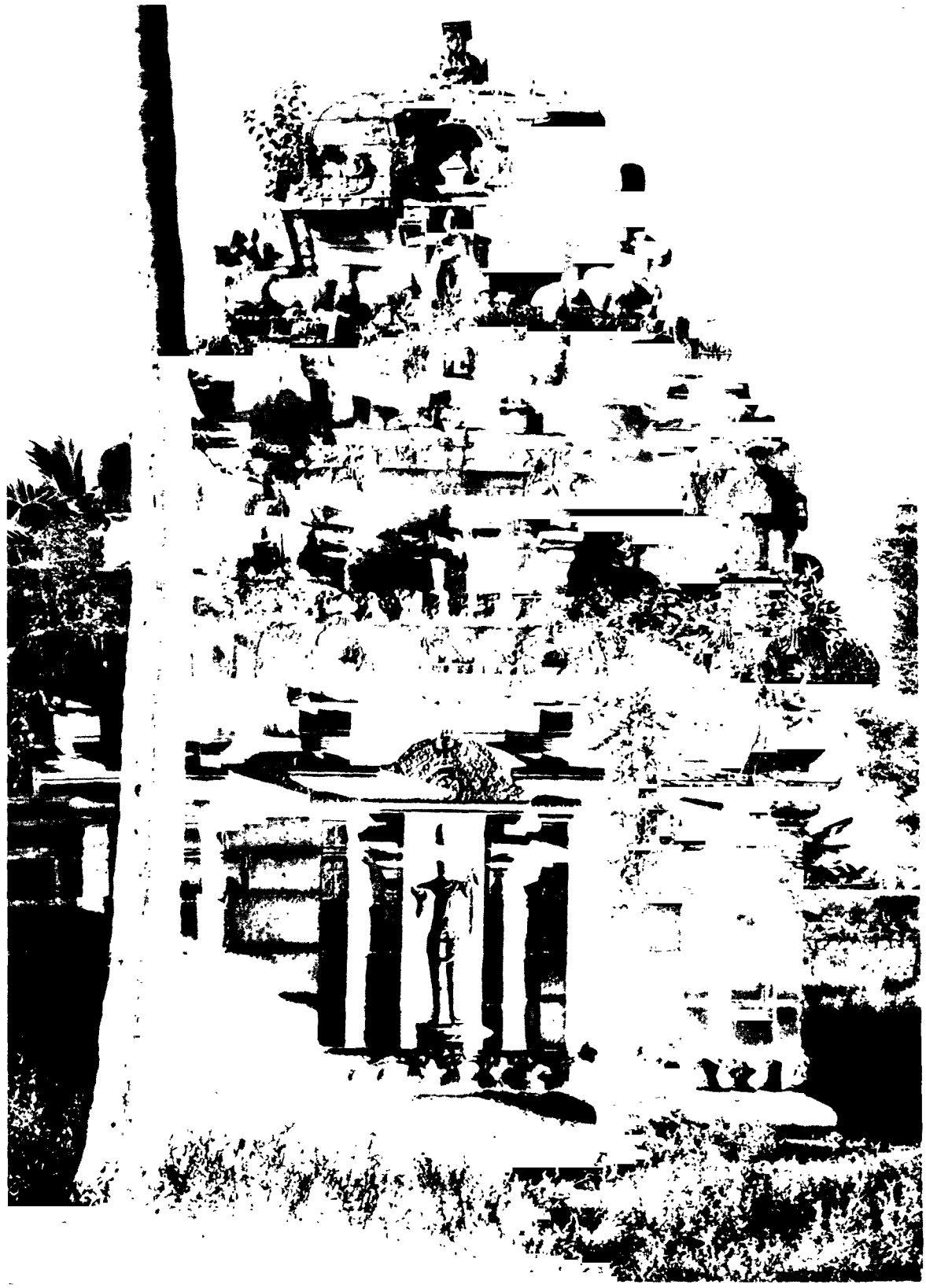


138
Kodumbalur. The Muvarkoil group of temples.

138

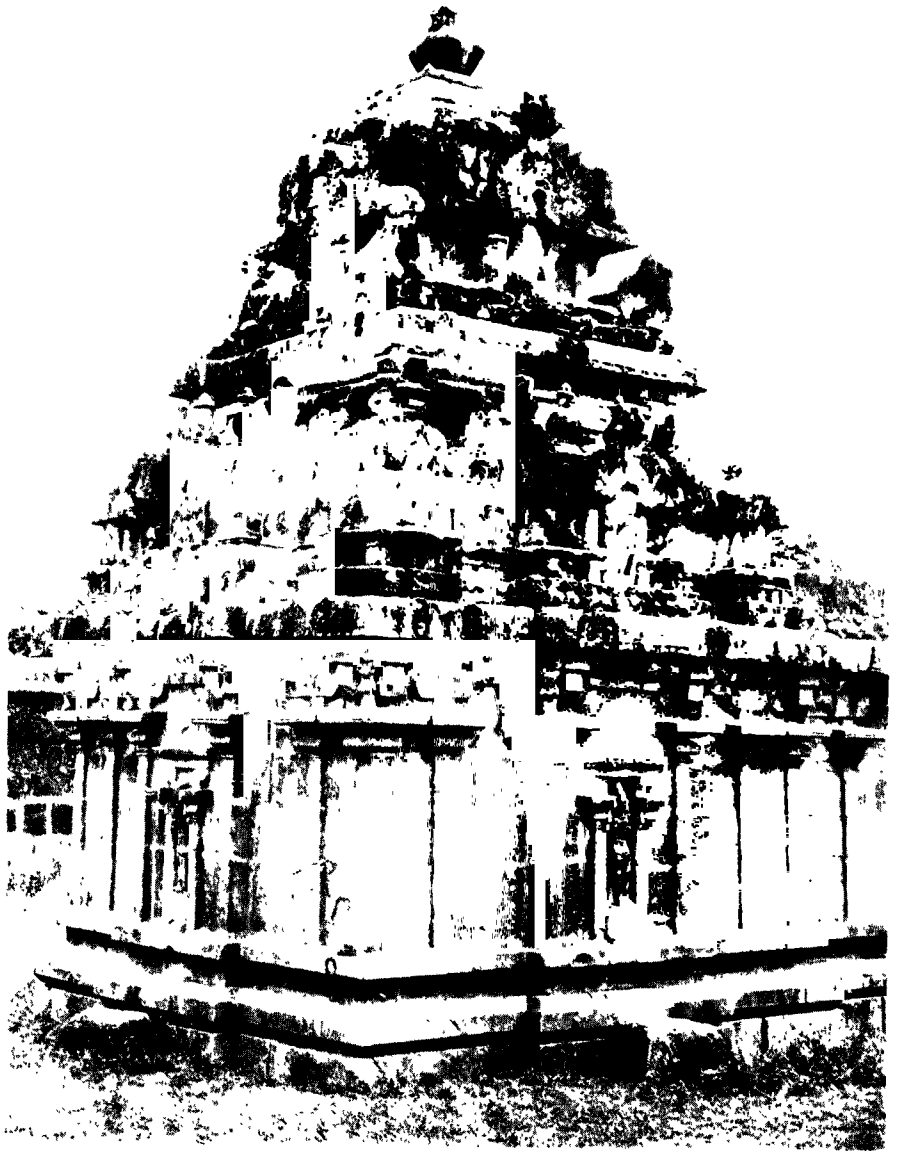


139
Kilayur, Agastīsvara temple.



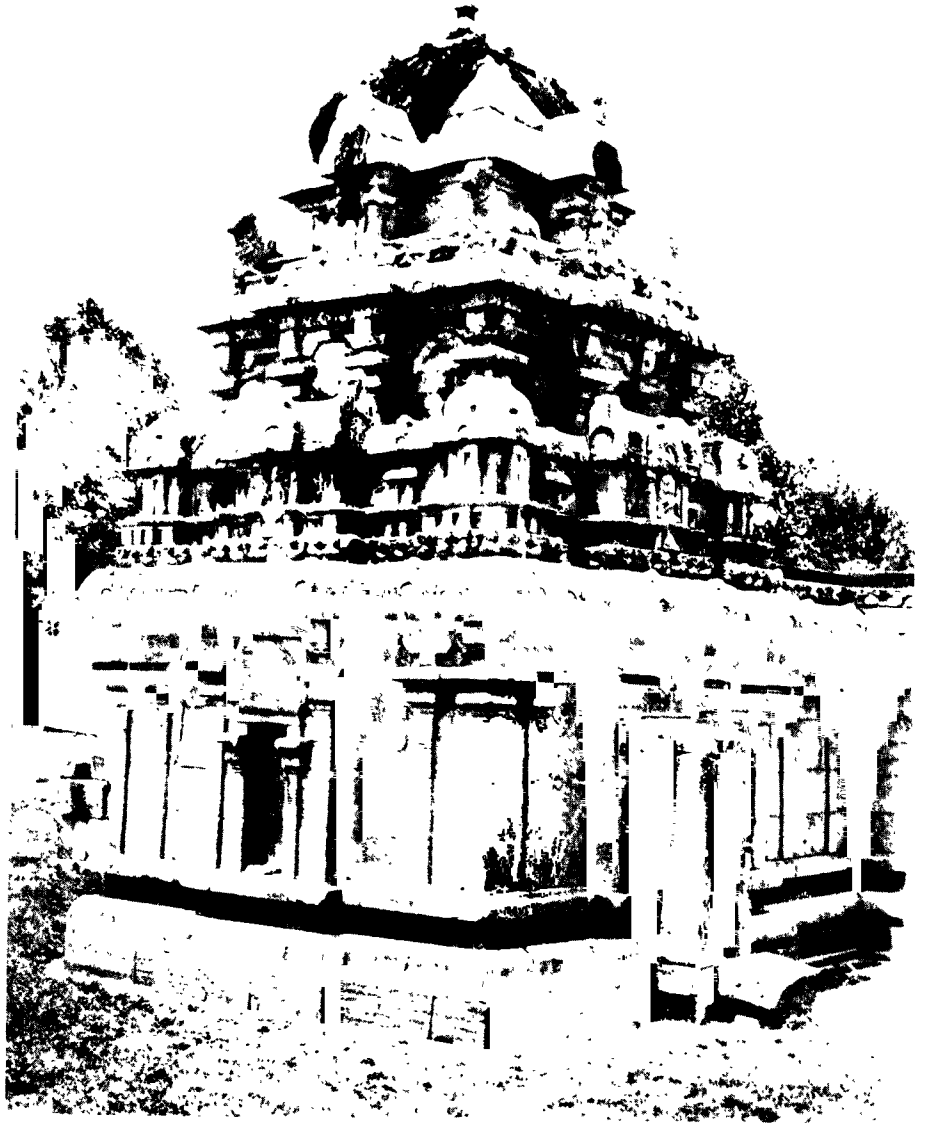
140

140
Tiruchchendurai, Candraśekhara
temple.



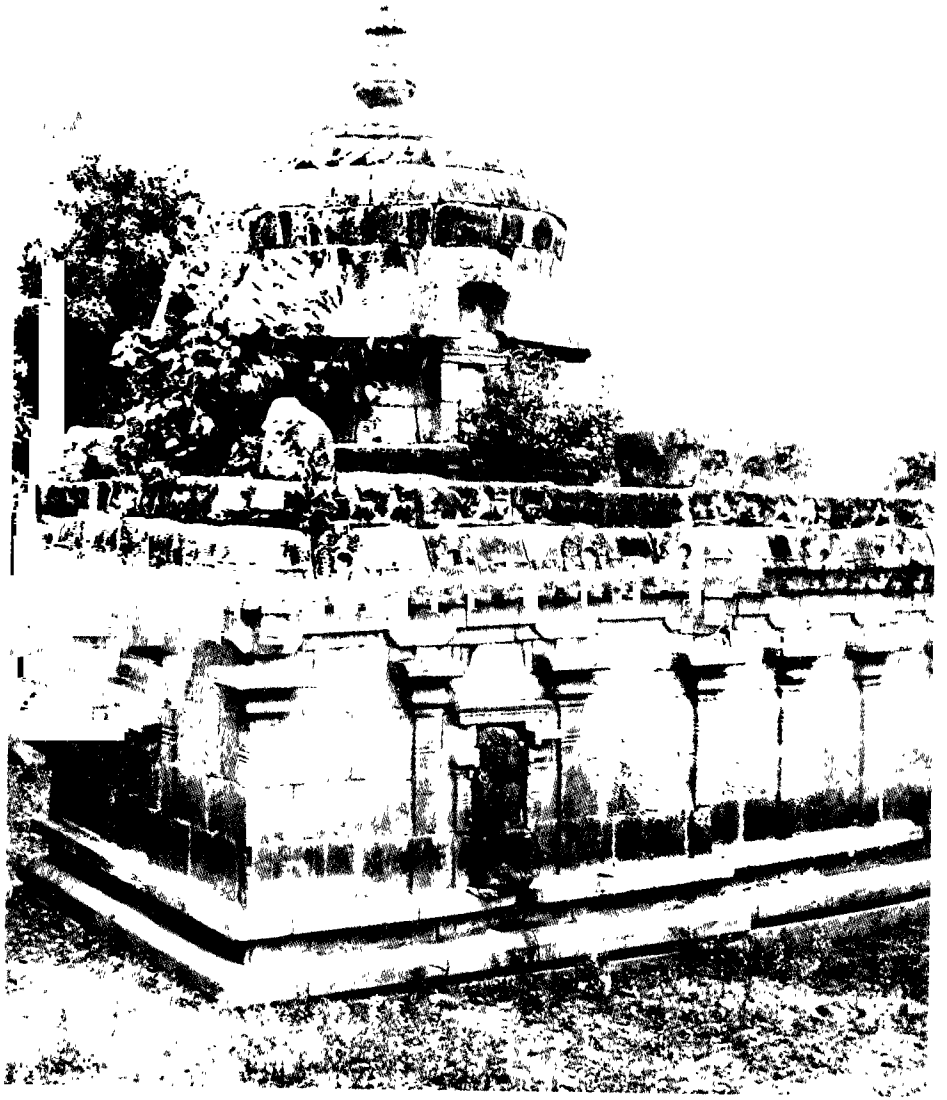
142

142
Tirukkattalai, S[illegible]ra



143

143
Kodumbalur, Mucukundeśvaram (Mudukunram Udayar) temple.

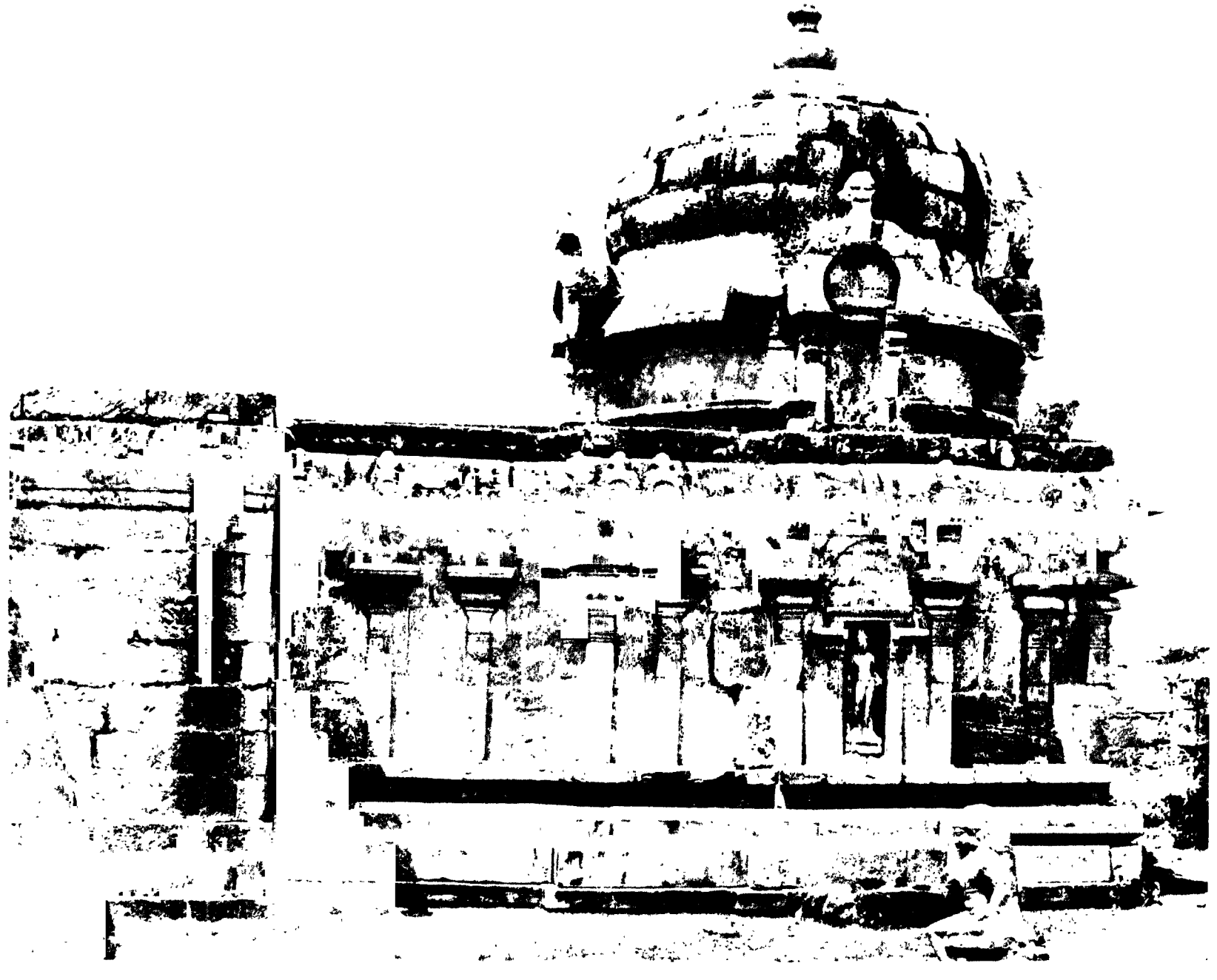


145

145
Kannanur, Subrahmanyeśvara temple.

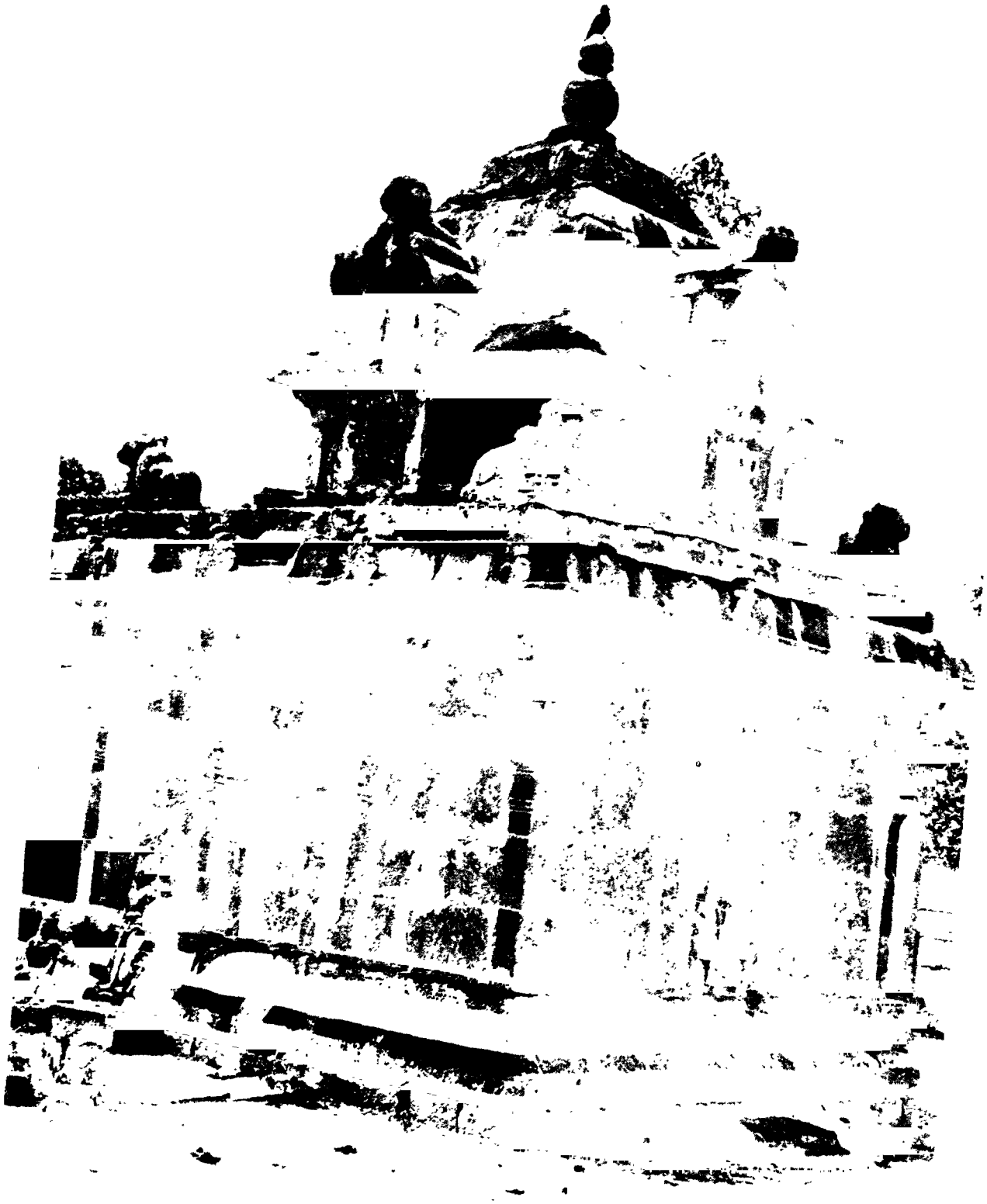
144
Viraḷūr: Bhūmīśvara temple.

144



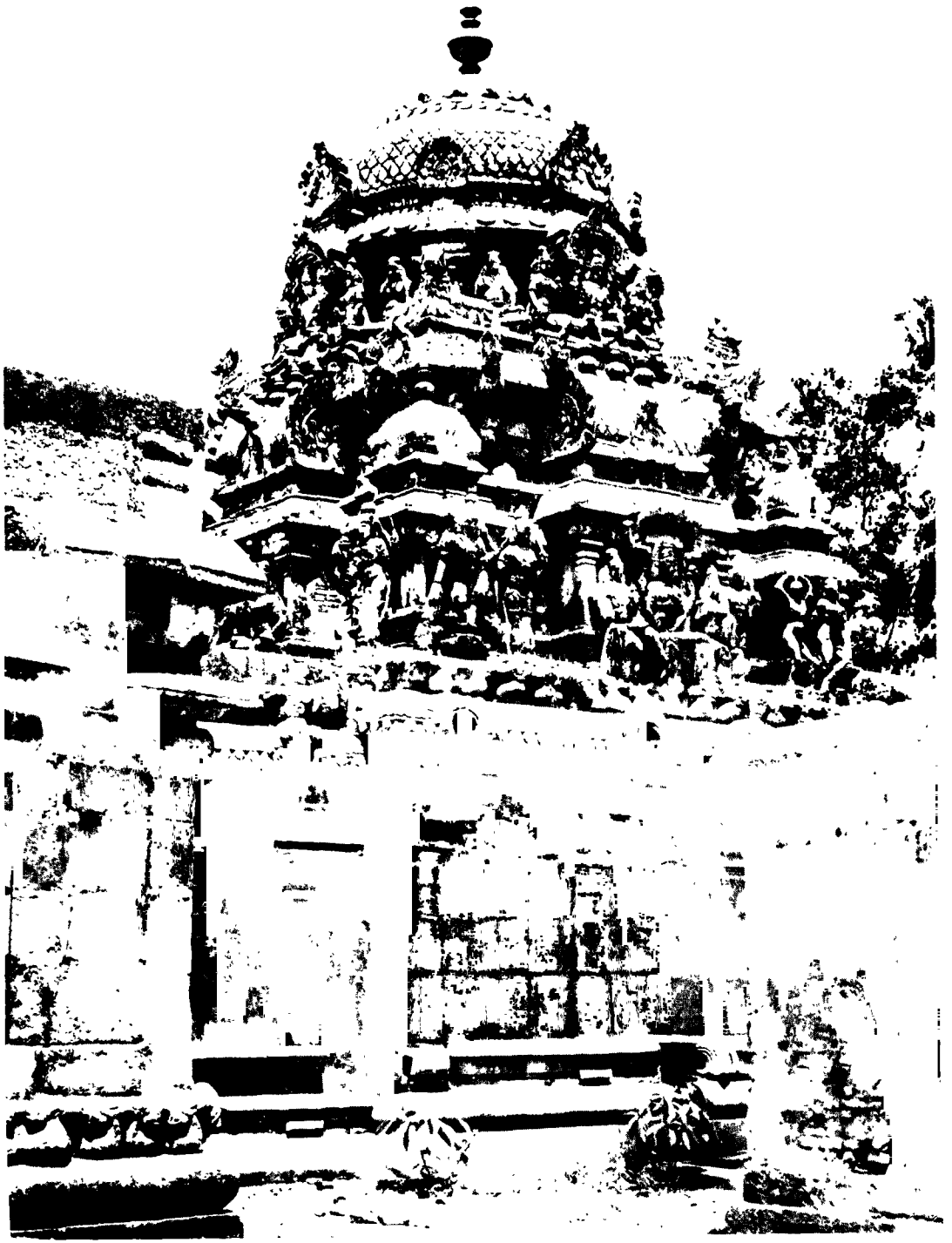
146
Kilattanaiyam. Uttamadani-svara temple.

146



147

147
Narttamalai. Vijayālayacolīśvaram temple.



148
Sendalai. Sundareśvara temple.

149
Nemam. Irāvateśvara temple.

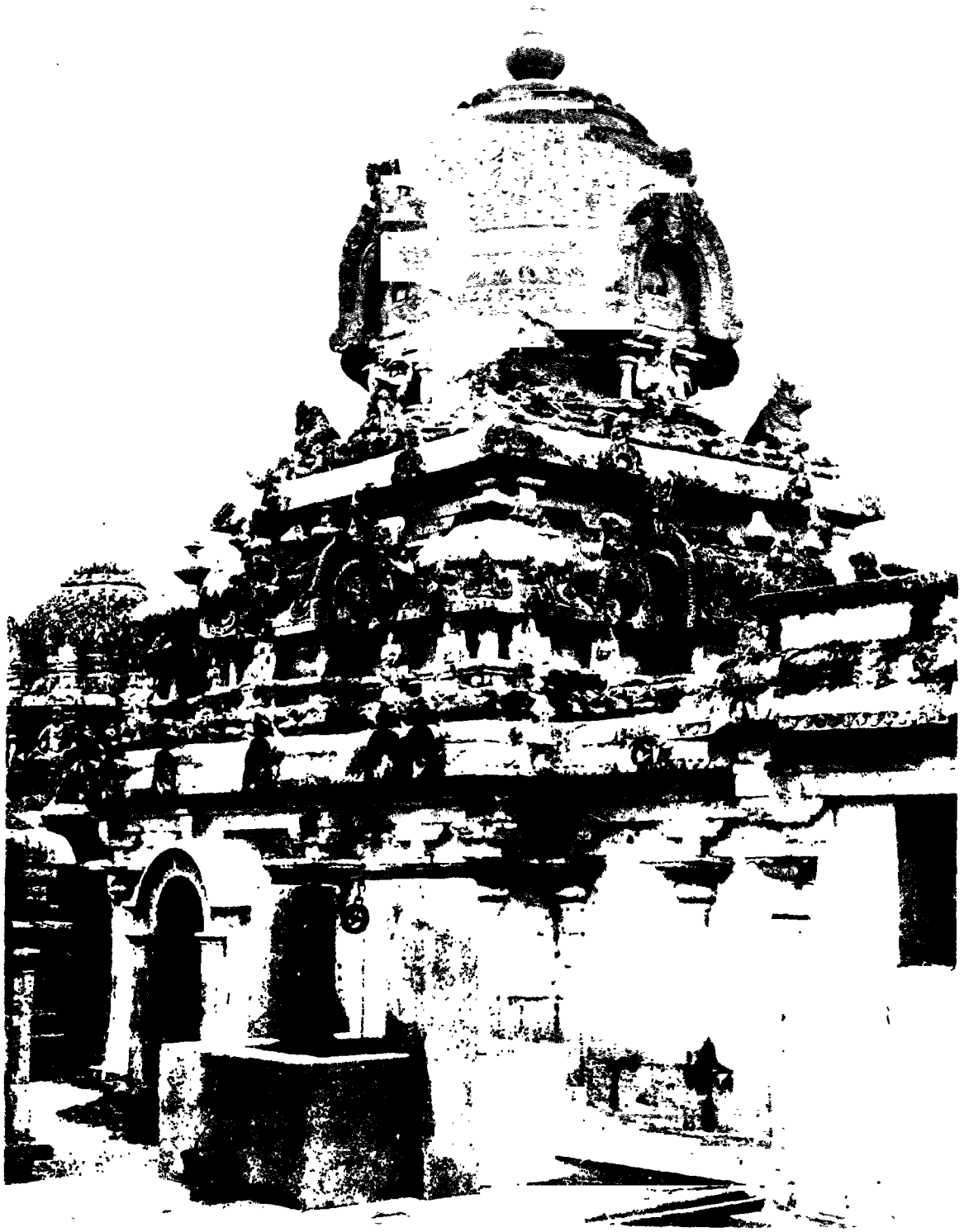
150
Nemam. Irāvateśvara temple.

149

150

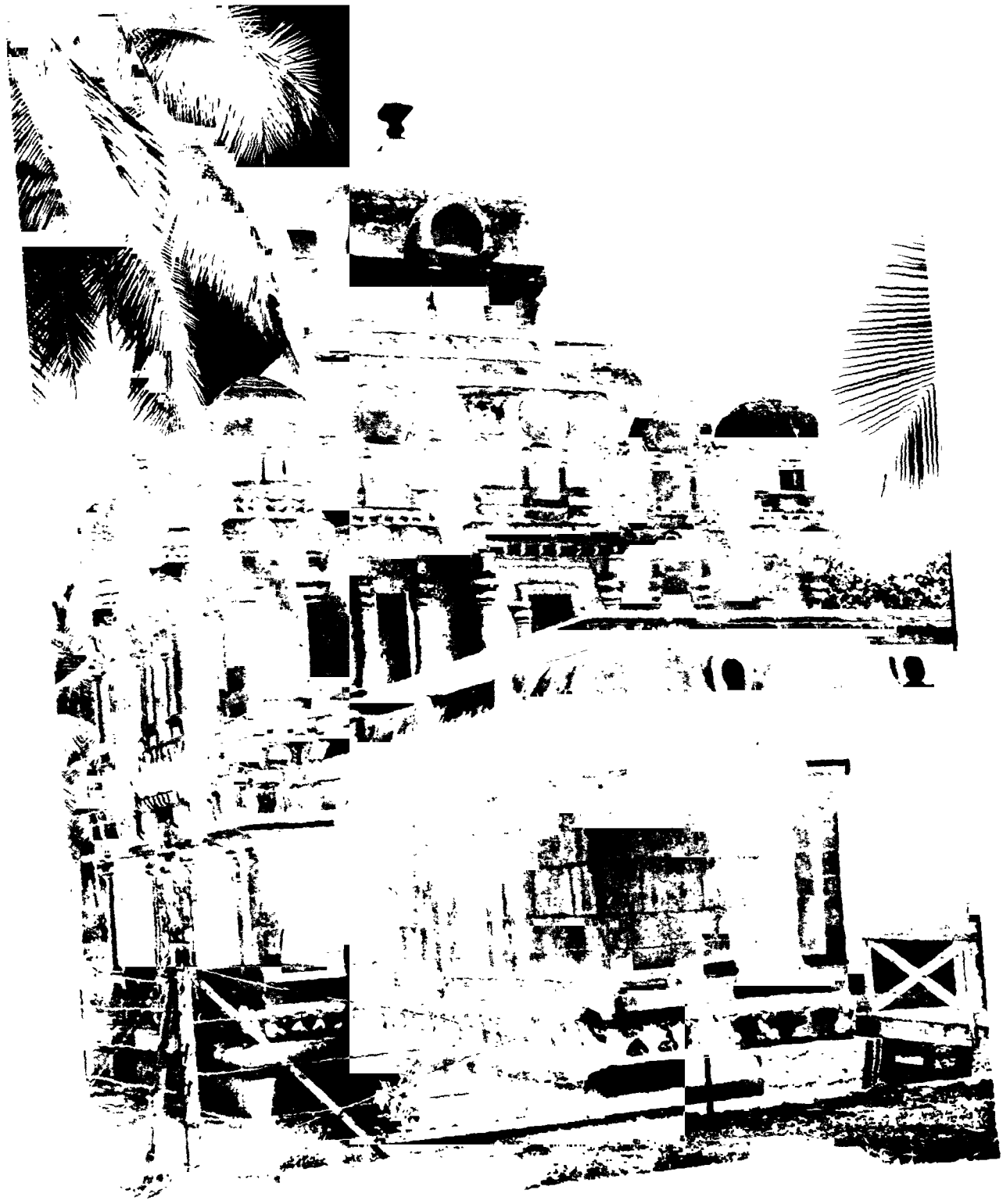
151
Nangavaram. Sundareśvara temple.

151



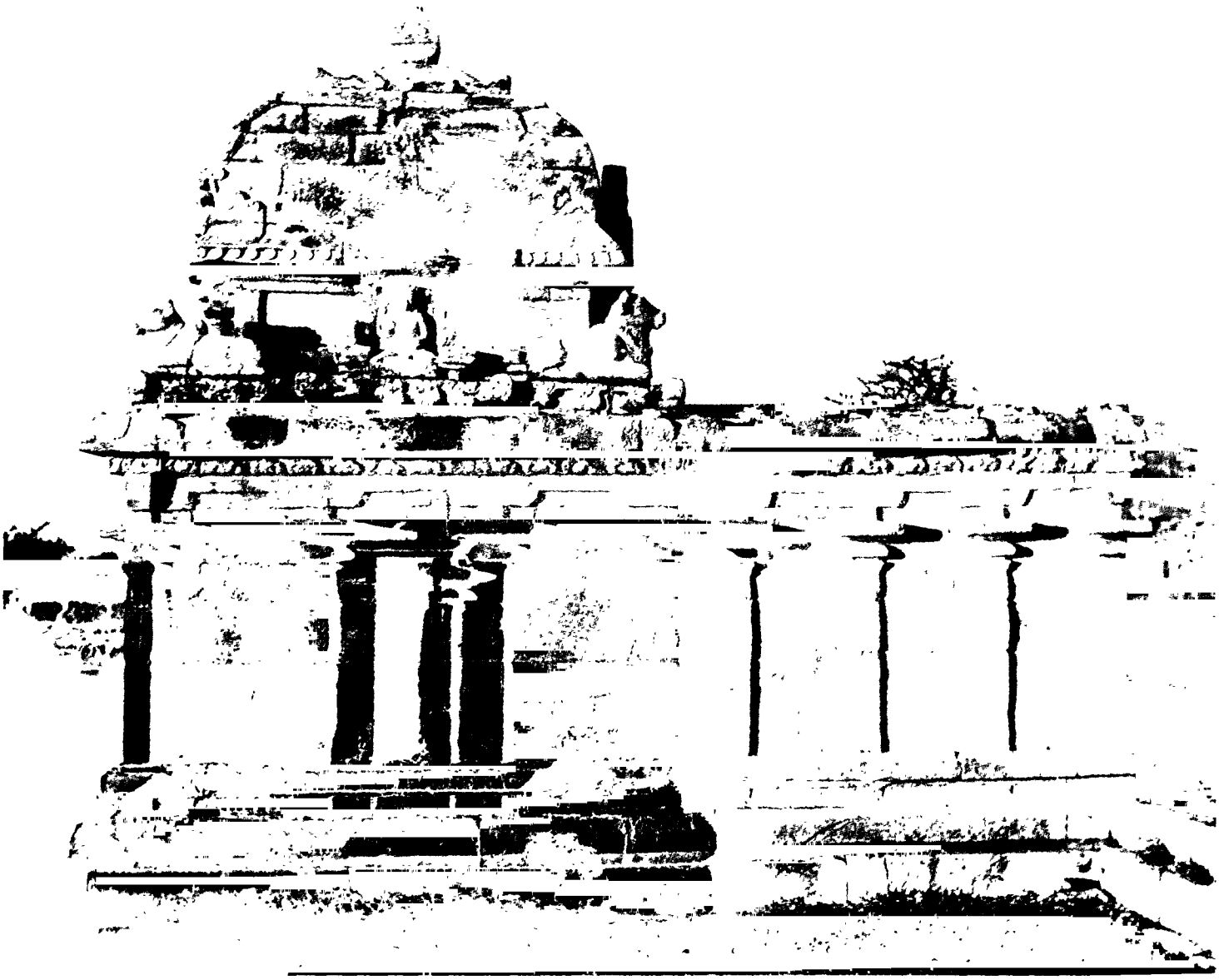
152
Srinivasanallur. Koraṅganātha (Tirukkorakkuṭṭurai Peruman Aḍigal) temple.

152



153
Panangudi. Śiva temple.

154
Turaiyur. Śrī Viśamaṅgalesvarāi
temple, a general view of the *vimāna*.

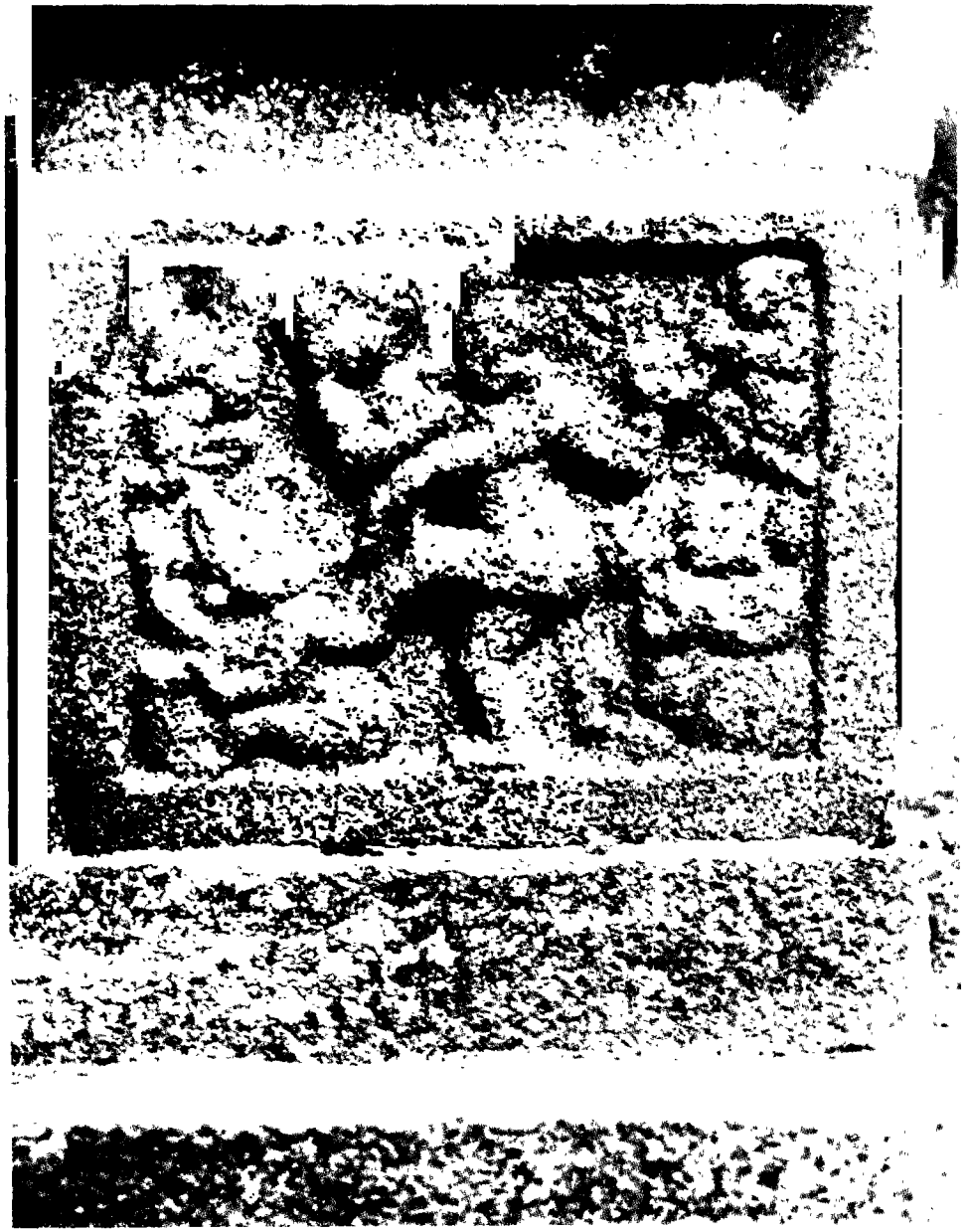


155
Turaiyur. Śrī Viṣamaṅgaleśvarār temple, Sarasvatī, on the south wall of the *ardhamaṇḍapa*.

156
Turaiyur. Śrī Viṣamaṅgaleśvarār temple, Śiva Vīṇādhara Dakṣiṇāmūrti on the south wall of the *garbhagṛha*.

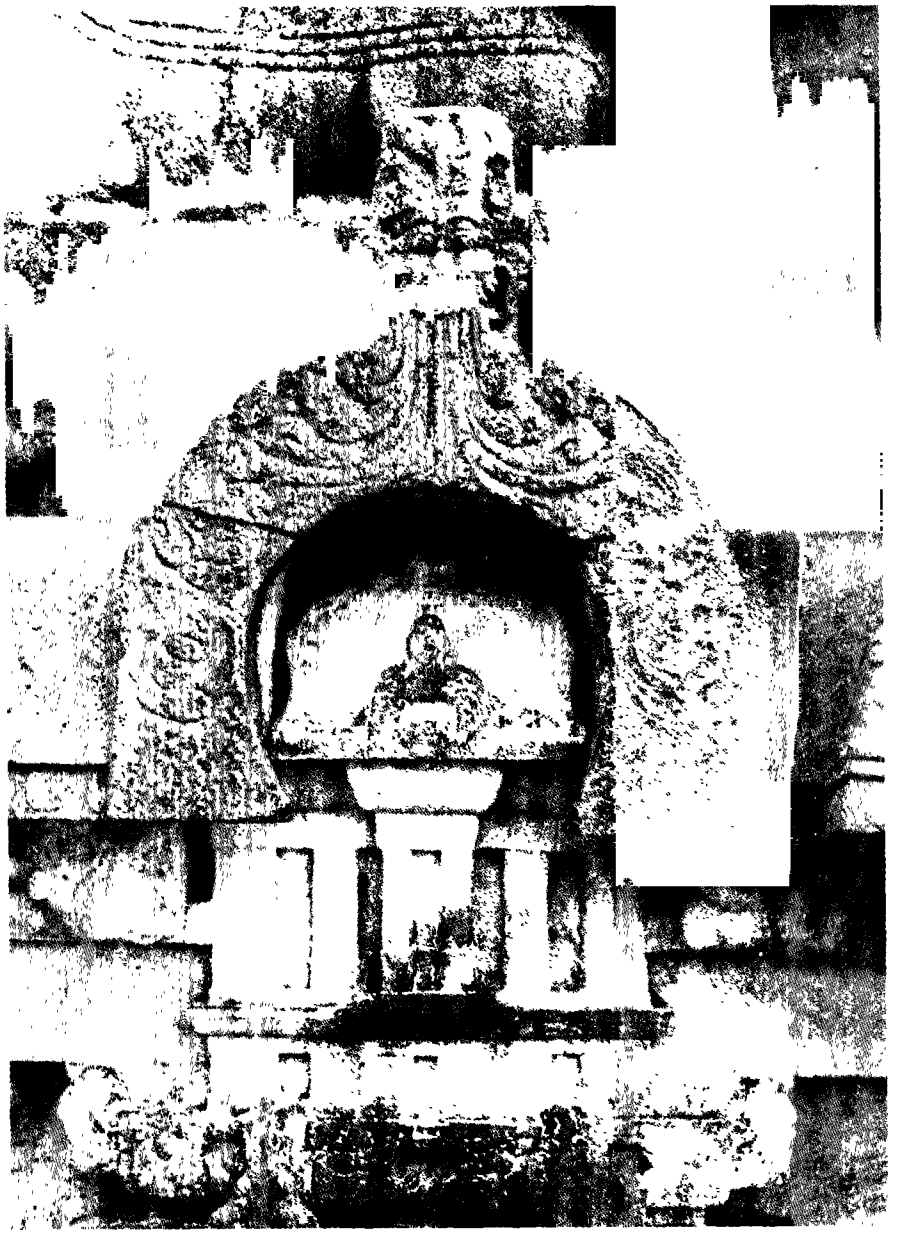
157
Turaiyur. Śrī Viṣamaṅgaleśvarār temple, Śiva-Pārvatī *āliṅganamūrti* on the west wall of the *garbhagṛha*.

158
Turaiyur. Śrī Viṣamaṅgaleśvarār temple, Durgā, on the north wall of the *ardhamaṇḍapa*.



159

159
Turaiyur. Srī Viṣaṇaṅgaleśvarār temple.
Śiva-Naṭarāja in *ānandatāṇḍava* on a pilaster on the western side of the *garbhagṛha*.



160

160
Turaiyur. Srī Viṣaṇaṅgaleśvarār temple,
nāsikā.

161
Turaiyur. Śrī Visamaṅgaleśvarār temple, *koṣṭha-pañjara*.

161

162
Turaiyur. Śrī Visamangaleśvarār temple, Viṣṇu.

162

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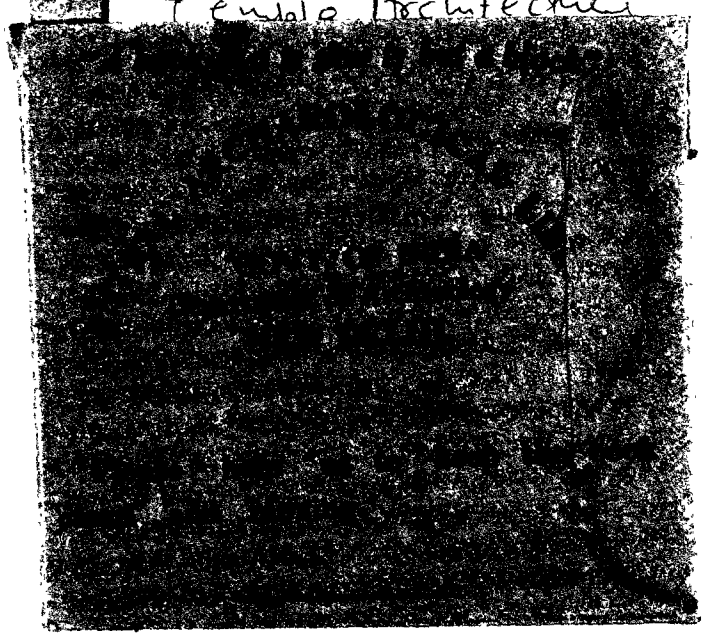
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